Coherence problems of EFL students' writing in light of the Gricean maxims

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Abstract

Aim. In academic writing, lack of coherence is thought to occur mostly due to the lack of necessary linguistic skills and knowledge in L2. Thus, the analysis of a written text is concerned with understanding the local relations among the ideas conveyed in a text.

Concept. As is usually the case, students writing in a second language generally produce texts that contain varying degrees of grammatical and rhetorical errors. Most of the studies have been conducted with only one criterion for the analysis of coherence and

they reported different results. Also, most of them have been conducted on a small scale in terms of the number of participants, and writing samples collected. Therefore, this study tries to investigate the coherence problems/errors of university students in their writing, if any, on a fairly large scale in light of the Cooperative principle and its maxims.

Results and conclusion. The study revealed that the basic problem of the students in their essay writing was the way the text should be structured with reference to how cohesion and coherence are established. In the analysis of maxim violations, the violation of the Quality maxim was identified as making overgeneralisations or giving inadequate or no evidence/support for the claims/ideas. The violation of the Quality maxim indicates that students tend to do it due to their linguistic inadequacies.

Key words: coherence, writing skill, Gricean maxim, EFL learners

Introduction

Learning to write in a second language (L2) is a complex process, involving students' first language (L1) background and writing expertise, L2 linguistic proficiency, and classroom instruction (Cumming & Riazi, 2000; Kozárová, 2020; Petlák, 2020; Samorodova et al., 2021; Stranovska et al., 2019). In fact, writing as one of the four major skills in language learning has been considered to be the most difficult skill to master. According to Jack C. Richards and Willy A. Renandya (2002), "this difficulty lies not only in generating and organising of ideas, but also in translating these ideas into readable texts" (as cited in Fatemi, 2008, p. 18).

In the foreign language learning process, an individual does not only process the foreign language structure, but also recognises the language culture and creates a relation to language and culture (Kobylarek, 2010; Lenovský, 2018; Roubalová et al., 2021). For facilitating teaching and learning in language classrooms is also important to investigate students' self-assessment (Azizi et al., 2020).

In the learning process of academic writing, lack of coherence has been thought to occur mostly due to the lack of necessary linguistic skills and knowledge in L2. However, it has also been suggested that coherence in L2 writing is not only related to the linguistic skills and knowledge of the writer in L2, but also to the writing skills and knowledge that people bring into L2 context from their L1 (Enginarlar, 1990).

Traditionally, in the field of error analysis, the focus of writing assessment has centred primarily on the formal analysis of linguistic elements at the sentence level. However, the communicative value or discourse quality of the language have often been neglected. Even some tools which seem highly beneficial for students, e.g. corpora, are not used in the process of education to a great extent (Jakubickova & Welnitzova, 2019; Králik & Máhrik, 2019a, 2019b; Tohochynskyi et al., 2021). However, since error analysis has not been sufficiently done in writing assessments, researchers attempted to apply discourse features in the analysis and evaluation of written texts (Spiegal & Fitzgerald, 1990).

In the field of discourse analysis, the analysis of a written text is concerned with understanding the local relations among the ideas conveyed in a text, i.e., relations among information in sentences occurring relatively close to eachother in the text. It is precisely the relations among ideas that define the coherence of the text and make it more than the sum of its parts. Indeed, Sanders, et al. (1992) defined coherence relations as theaspect of the meaning of two or more discourse segments that cannot be described in terms of the meaning of the segments in isolation. In other words, it is because of this coherence relation that the meaning of two discourse segments is more than the sum of its parts (as cited in Goldman & Wiley, 2003, p. 4).

Discourse analysis also permits researchers to compare texts in terms of propositional structure and the ease with which connections across propositions, hence coherence, can be achieved.

As is usually the case, students writing in a second language generally produce texts that contain varying degrees of grammatical and rhetorical errors. In fact, depending on proficiency level, the more creative the text, the greater the possibility there is for errors at the morpho-syntactic level. These kinds of errors are especially common among L2 writers who have a lot of ideas, but not enough language to express what they want to say in a comprehensible way. Thus, some researchers (e.g. Chiang, 1999; Cox et al.,1991; Dastjerdi & Hayati, 2011; Fatemi, 2008; Liu & Wang, 2011) found it important to investigate the ability of learners to use discourse features to make their writing a coherent and cohesive piece. However, they have reported different results, and most of these studies have been done with only one criterion for the analysis of coherence in writing samples while this study has made use of two criteria for the analysis of coherence, that is, the coherence judgments of the researcher and a co-rater as well as the Cooperative principle and its maxims as proposed by Grice (1975). In addition, as far as the error analysis of Iranian EFL learners' writing is concerned, most of the studies have been conducted on a small scale in terms of the number of participants and writing samples collected (e.g. Edalat 2004; Samar & Rezaie, 2002). Therefore, this study tries to investigate the coherence problems/errors of Iranian university students in their writing, if any, on a fairly large scale in order to provide a clearer picture of their writing competence.

Theoretical framework

Since the 1970s, there has been a heated debate on "above the sentence linguistics" among researchers. Two main approaches, that is, coherence as a process and coherence as a product, share different views on how coherence is achieved. The former centres on what is unfolded as the reader interacts with the text, whereas the latter is explained in terms of features identifiable in the textual product itself.

Coherence as a process or a product

The researchers of the process-oriented approach directly challenged cohesion (Carrell, 1982). They maintained that coherence is not some feature that is embedded in a text, but instead it is a process of "coherence-making" on the part of reader and writer and is dependent on the notion of shared background knowledge. This is a situation where the efficient reader essentially constructs a meaning that he/she can assimilate or accommodate and that,to a certain degree, matches the original meaning of the writer. Such a notion of coherence paves the way for a great deal of insightful work in text linguistics.

However, since the primary concerns of process-oriented theories rest on the modelling of the reading and writing process, and not with quantitative writing research, they have consequently not provided a sufficiently objective analytical procedure in order to distinguish, in quantitative research studies, more coherenttexts from less coherent. Among them are Gillian Brown and George Yule (1983), Patricia L. Carrell (1982, 1984), Mahmoud Azizi and Roman Kralik (2020). The distinction between coherence as a process and coherence as a product is basically spelt out in the relationship between cohesion and coherence. However, cohesion theory has been under severe criticism by process-oriented researchers. Patricia L. Carrell (1982), for instance, argues that a text can be coherent but not cohesive.

In addition, top-down and bottom-up approaches to comprehension are the two majordifficulties that the process-oriented approach has to face. The two approaches deal with insights into the reading process, but while the former is concerned with the reader understanding a text by drawing on his/her background knowledge of the world, the latter advocates that the reader makes use of information present in the text (Stranovska & Gadusova, 2020; Stranovska et al., 2020; Ficzere, Stranovska, & Gadusova, 2020). These two approaches led to an extensive debate about whether decoding skills (bottom-up) or the meaning (top-down) should receive more emphasis.

Local coherence vs. global coherence

Various views have been put forward on how coherence may be achieved. As a result, coherence has been studied and defined under two categories. Local coherence has been referred to as sentential links of the text. In other words, local coherence is established with the surface level connectivity of the text by the use of linguistic markers which are "explicit indicators of relations between concepts and ideas in the text, e.g. connectives, argument overlap, and pronominal reference" (McNamara & Kintsch, 1996, p. 252). The local coherence of a text is usually used to refer to the micro-structure of a text.

Global coherence, on the other hand, refers to the underlying relations between the ideas of a text (Dijk, 1978; McNamara & Kintsch, 1996). Since global coherence is related tothe whole discourse of a text and used to refer to the macro-structure of a text. The macro-structure of a text "can be cued directly in the text via topic headers and topic sentences" (McNamara &

Kintsch, 1996, p. 252). Also, Teun A.Van Dijk (1972) advocates that readers have certain expectations about the overall structure or macro-structure of texts, depending on the genres. Patricia L. Carrell (1984), and Dan Sperber and Deirdre Wilson (1986) claim that coherence is dependent on relevance. Ann M. Johns (1986) declares that coherence is reader-related, that is, coherence is seen as a process, whereby the reader makes coherence by continually testing the text against his/her expectations, and that text-based coherence is the product of text alone, abstracted away from socio-cultural knowledge between a reader and writer.

The notion of coherence, according to Terence Odlin (1997), is closely related to the notions of logicality and relevance, with the absence of either one seriously threatening the coherence of discourse. Hence, conversations or monologues may seem incoherent if they lack sufficiently logical relations between ideas, or more technically, propositions. They may also seem incoherent if there is too little relation between a focus of information in discourse (i.e., a topic) and other information. In some cases, a particular audience may simply lack sufficient knowledge of the topic to make sense out of discourse. The language in technical reports in various fields may seem incoherent to those unfamiliar with the subject matter, whether or not the discourse is really incoherent. Similarly, a discourse that presupposes some familiarity with another culture may seem incoherent when listeners or readers lack sufficient knowledge of the culture (Ambrózy et al., 2019). In other cases, audiences may not have problems with the content of the discourse, but with the presentation of information. For audiences unfamiliar with certain patterns of organisation, the information presented through those patterns may prove difficult or even impossible to understand.

Coherence has also been based on the Gricean maxims of relevance and cooperativeness (Grice, 1971). Critics of cohesion concepts such as Nils Erik Enkvist (1979), and Stephen Witte and Lester Faigley (1981) have claimed that texts can be coherent without being cohesive, but it should be remembered that the originators of cohesion theory, M. A. K. Halliday and Ruqayia Hasan (1976), did not prescribe that cohesion is a necessary condition for coherence. Cohesion is the effect and not the cause of coherence.

Grice's Cooperative Principle and maxims of cooperation

As languages have emerged and developed in the history of mankind based on the need forcommunication, people involved in any kind of conversation intend to communicate their messages. In their communication process, they do not formulate isolated sentences, but try to conform to a general set of norms, according to which their sentences are organised to make up the whole of their messages. Grice (1975) defined "The Cooperative Principle and the maxims of cooperation" as the principles that people abide by for successful communication. He defines how people communicate in his article "Logic and conversation":

Our talk exchanges do not normally consist of a succession of disconnected remarks, and would not be rational if they did. They are characteristically, to some degree at least, cooperative efforts, and each participant recognizes in them, to some extent, a common purpose or set of purposes, or at least a mutually accepted direction (Grice, 1975, p. 47).

These purposes might be set at the beginning of a conversation with a set question or discussion topic, or they may be set during the exchange of the talk; theymay be definite or quite indefinite leaving some ground for the recipient to interpret. However, at some stages of the process some conversational moves can turn out to be unsuitable therefor. At this point, Grice (1975) explains the principle that the people are expected to follow:"Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged. One might label this the Cooperative Principle" (Grice, 1975, p. 48).

Upon his assumption that people are expected to abide by the Cooperative Principle, Grice (1975) defines four specific maxims or sub-maxims following the philosopher Kant (1784). These maxims are Quantity, Quality, Relation, and Manner. He describes these maxims as follows:

- Quantity means making the contribution as informative as is required (for the current purposes of the exchange).
- Quality means trying to make your contribution one that is true. This means not saying what you believe to be false.
- Relation means being relevant. Grice gives only one sub-maxim under relevance, and it simply means exchanging information relevant to the purposes of the conversation.
- Manner means being perspicuous, i.e., avoiding obscurity of expression; avoiding ambiguity; being brief (avoid unnecessary prolixity), and being orderly.

Grice (1975) suggests that "the maxims of manner are different from the others in the sense that whereas other maxims are related to what is said, manner is related to how what is said to be said" (p. 46).

The Cooperative Principle and coherence in writing

Although Grice's Cooperative Principle has long been discussed for spoken interactions, very few studies have analysed written discourse from the perspective of the Cooperative Principle. The researchers believe that it can bring new insights into the analysis of coherence in written discourse because what Grice (1975) defines is what makes people's utterances abide by certain conversational principles, and how people abide by those principles. In other words, in terms of writing, he defines what makes the reader comprehend the text in terms of what the writer provides, and how he/she provides it. This approach is based on the assumption that written discourse is a result of the attempt to produce a sequence of sentences in accordance with the maxims described by Grice. Therefore, in written discourse, each sentence is intended to say "something necessary, true, and relevant to accomplishing some objective in which

(it is mutually believed) the text producer and the intended audience are mutually interested" (Green, 1989, p. 103).

According to Brian Austin Green (1989), "coherence depends on the extent to which effort is required to construct a reasonable plan to attribute to the text producer in producing the text. This, in turn, depends on how hard or easy it is to take each sentence as representing a true, necessary, and relevant contribution to that plan" (p. 103). In other words, coherence is not achieved solely through easily inferable connections between sentences.

Green (1989) discusses one of the consequences of Gricean maxims, namely the Relevance maxim, as the basis of coherence problems in texts. Originally, Grice (1975) finds Relevance as "exceedingly difficult" because:

> its formulation conceals a number of problems that exercise a good deal of questions about what different kinds and focuses of relevance there may be, how these shift in the course of a talk exchange, how to allow for the fact that subjects of conversation are legitimately changed, and so on (Grice, 1975, p. 47).

Although Grice planned to discuss the questions about Relevance, he never did so. Thus, Green (1989) studied the issue by claiming that certain linguistic properties of a text may exist, but these do not necessarily make a text coherent and tie the ideas in a text to each other.

In a more detailed study, Marianne Celce-Murcia and Elite Olshtain (2000) argue that in written discourse, these maxims help particularly during revision and editing. They explain how each maxim can be adapted for written discourse, as the following list illustrates:

1. The maxim of Quantity requires that the writer carefully consider the amount of information that should be imparted in the text or, in other words, what content elaboration might be necessary. This is an important feature of an effective text in terms of written communication.
2. The maxim of Quality requires the writer to provide support and justification for his/her position in order to render the text accurate and give it truth-value. Particularly in academic writing, providing justification and evidence is important, and this is often accomplished through citing references.
3. The maxim of Relation requires the writer to create a text that makes sense within the potential context in which it will be read.
4. The maxim of Manner requires bottom-up techniques to make the text unambiguous, clear in terms of its linguistic forms and sentence structure as well as clear in the physical shape or format in which it is presented so that form and content are compatible, and processing made possible (Celce-Murcia & Olshtain, 2000, p. 24).

Grice's Cooperative Principle and the Gricean maxims provide clear, understandable, and practical explanations for the principles that the interlocutors (i.e., writer and reader) will follow. Though Gricean maxims have often been used in the analysis of spoken communication, there is no argument stating that they cannot be used in writing. Indeed, writing is another form of commu-

nication, and violating these maxims in writing may cause problems in communicating or getting the meaning out of a particular text. As William Grabe and Robert Kaplan (1996, p. 41) state, "writing is structured to communicate information within certain accepted principles," which may include Grice's Cooperative Principle and its maxims. Moreover, the studies on content schemata also support the claims that the writers must consider their audience's background knowledge, which is also parallel to the Gricean maxims.

In line with such studies, this study has tried to apply the Cooperative Principle and its maxims as proposed by Grice (1975) as one of the two criteria for the assessment of the students' writing samples in terms of coherence. That is, they serve as a complement to the coherence judgments of the researcher and his co-rater, which are based on a holistic rating scale.

Research studies on coherence

Abdollah Shakir (1991) carried out an investigation into the weaknesses which affect coherence in students' writing. Out of 45 texts written by first--year EFL students at Yarmouk University, Abdollah Shakir (1991) examined in detail two texts after these had been rated by teachers. He considered in his study Betty Bamberg's (1974, 1984) scheme for the evaluation of coherence and cohesion in students' written texts, Eleanor Wikborg (1985) and Mufeeq H. Doushaq's (1986) suggestions of aspects essential to text coherence, as well as insights from text linguistic theories on what a coherent text is supposed to consist of. His findings reveal major weaknesses in the students' mode of presentation, their inability to stay with initial ideas as well asgeneral statements, lack of depth of substantiation, and deviation from intended rhetorical functions of the writing task. These aspects were the concerns of his raters' impressions of the texts he studied and are in line with the product-oriented view of coherence. These aspects are far more detrimental to coherence, he argues, than others like the grammaticality of structures and appropriateness of the mechanics of writing that his raters emphasised. Shakir's findings are convergent with Bamberg's (1983) view of coherence, which postulates that coherence in students' written texts is achieved through the content organisation, focus, functionality of connectives, topic development, and appropriateness of grammatical structures.

A study based on Gricean maxims for the analysis of coherence was carried out by Deborah LaFond (2000), who argues that inexperienced writers tend to flout the Quality maxim and as a result of this, they cannot fulfil the maxims of Quantity, Relevance, and Manner. Thus, flouting of the Quality maxim affects the fulfilment of other maxims because, when the Quality maxim is violated, adhering to other maxims becomes difficult for the students. In this study, freshman students at the University of South Carolina were asked to write spontaneous essays on the topic of *The night I saw the movie, Titanic*. Half of the students had seen the movie before, but half of them had not. Therefore, half of the students would be telling the truth, but half of them would be deceiving. When the two groups of essays were examined, non-factual essays had

more Manner, Relevance, and Quantity maxim violations than the truth-telling essays, and if the truth-telling and falsifying essays violated two or more of the maxims of Relevance, Quality, and Manner, these essays were regarded as falsifications; simultaneously, the essays were regarded as factual if they contained less than two types of maxim violations in them. The study, therefore, showed that violation of Manner, Relevance, and Quantity maxims has a direct role in readers' judgments of adherence to the Quality maxim.

Ozatay Ozhan (2004) tried to contribute to the field of the teaching of the concept of coherence by proposing an approach to analysing coherence in students' essays. In order to achieve this aim, 50 essays were rated for coherence by two raters, and the same essays were analysed by the researcher for the violations of Gricean maxims. Next, the correlation between the raters' judgments and the number of maxim violations in each essay, and the correlation between the raters' judgments and the number of violations for each maxim in each essay were calculated. The findings revealed a significant negative correlation between the variables and a negative correlation between the raters' judgments and the violation of the Quantity maxim most frequently. The findings suggest that Gricean maxims can be used as a tool for analysing coherence in the students' essays.

Furthermore, Bayram Mustafa Zor (2006) investigated the violations of Gricean maxims in the essays written by 20 Turkish students. The essays were rated for coherence by three different raters. The coherence ratings showed that there was a positive significant correlation between the coherence judgments of the raters. Next, the essays were analysed in light of the Gricean Maxims to find the violations of each maxim in each essay by the researcher. In the comparison of maxim violations and the coherence judgments of the raters, the maxim of Relation was found to be the most significant maxim that affected the coherence judgments of the raters for both Turkish and English essays. In addition, the Manner maxim was significant for Turkish essays, while the Quantity maxim was significant for English essays. However, in the comparison of the violation of individual maxims in Turkish and English essays, the violation of the Relation maxim in English essays was found to correlate with the violation of Relation, Quality and Quantity maxims in Turkish essays. Similarly, violation of the Manner maxim in English essays was also found to correlate with the violation of Quantity and Relation maxims. On the other hand, the violation of theManner maxim in Turkish essays was found to correlate with the violation of the Quantity maxim in English essays. In conclusion, by looking at these relationships between Turkish essays and English essays, it may be argued that students may have inadequacies in writing skills or may lack some writing skills in Turkish, which may cause inadequacies in English academic writing skills.

Hamid Al-Hamadi and Behija Muhammed (2009) tried to find out how much the Gricean maxims of Quantity, Quality, Relevance, and Manner were followed throughout the conversations of some politicians in their interviews as they responded to different questions posed by TV programme presenters

and sometimes by the audience. The cases of violation were given considerable importance in their study, especially the violation of the Quality maxim, which is considered the core of truthfulness of any conversation. The results have proved the correctness of the hypothesis of the researchers that, when the maxim of Quality is violated, all other maxims are difficult to adhere to. Also, they found that the maxim of Quantity and more importantly the maxim of Quality were much more violated than the maxims of Relevance and Manner, which is due to the very language of politics. Politics, most often, requires certain considerations in communicating any piece of information. That is why truthfulness, sufficiency or insufficiency of any piece of information cannot be readily understood.

Ali Akbar Foroughi and Samira Lotfi (2013) investigated the role of culture as an extra-linguistic factor on the observance or infringing of Grice's Quantity maxim when writing in the first and second languages. To achieve this aim, they selected and compared 30 psychological articles written by Iranians and native English writers. All the sentences included in the discussion and result sections of the articles were then rated based on the observance/non-observance of Grice's maxim of Quantity. The findings revealed that not only the native speakers of Persian but also their English counterparts violated the Quantity maxim in their writings. A statistically significant difference was observed between Persian articles written by Iranian writers and English articles written by native speakers of English regarding the observance of Quantity maxim. The frequency of itsviolation in Persian articles was higherthan that in native English articles. However, considering the English articles written by both English and Iranian authors, the difference between them did not reach statistical significance.

In line with such studies, and due to the fact that there are few studies done thus far concerning the Gricean maxims in Iranian students' writing, it is worth investigating them in a new study in order to offer more insights regarding their observance/non-observance in written communication.

Method

Participants
The participants of this study were 100 BA students (male and female) from the Islamic Azad University of Ghaemshahr and also the University of Mazandaran. All of them were English majors. Some of them were studying for their BA in English Translation and the rest of them in Teaching English as a Foreign Language (TEFL).

Materials
The materials of the study were in-class writing and essays, as well as essay writing exam papers.

Interviews

In this study, one of the criteria for the assessment of the students' writing samples in terms of coherence was the coherence judgments of the researcher and a co-rater, so in order to obtaininformation about the coherence expectations of the co-rater, the researcher conducted interviews with the co-rater before and after analysing the essays. The co-rater was asked to clarify his criteria for a coherent text, and which criteria he weighs most. After the coherence analysis was completed, the co-rater was interviewed again to see if he used any coherence criteria other than the ones he had cited at the first interview. The main focus of these interviews was to identify the criteria of coherence in the co-rater's mind and whetherhis criteria changed after he analysed the essays.

Data analysis

In order to present the results of statistical analyses in a more practical way and to save space, the following abbreviations were used in the correlation analyses on Statistical Package for the Social Sciences (SPSS):

Table 1
Coding Sketch

Abbreviations	Meaning
CJR	Coherence judgments of the researcher
CJCR	Coherence judgments of the co-rater
QL	Number of violations of the Quality maxim
MA	Number of violations of the Manner maxim
QN	Number of violations of the Quantity maxim
RE	Number of violations of the Relevance maxim
TOTMAX	Total number of maxim violations

Source: Own research.

The assessment of the students' writing samples in terms of coherence was done in two phases. First, the researcher and the co-rater analysed the essays for coherence judgments based on a 5-point coherence rating scale (i.e., 1 - totally incoherent, and 5 - totally coherent), and then the Cooperative Principle and its maxims as proposed by Grice (1975) were used to analyse the essays for maxim violations. Then, correlation analysis was made between the coherence judgments of the researcher and the co-rater. Also, a correlation analysis was performedto see if the researcher and the co-rater agree with each other on the analysis of maxim violations. The results of the correlation analysis (0.975 at 0.01 level on SPSS) showed a strong agreement between the researcher and the co-rater.

In the next stage of the research, correlation analysis was performedbetween the coherence judgments of the researcher and the co-rater and the violations of Gricean maxims in order to determine whether there is a significant relationship between the two methods for the assessment of coherence.

RESULTS

Degree of coherence

For the present study, two raters (the researcher and his co-rater) evaluated 100 essays in terms of their coherence judgments according to a 5-point coherence rating scale (i.e., 1 - totally incoherent, and 5 - totally coherent). The scores given to each essay by the raters were averaged, and the mean was determined as the final score for each essay.

Table 2
Statistics related to the coherence judgments

Mean	Standard deviation	Standard error	Minimum	Maximum	Range	Median
3.56	0.4	0.1	1.50	5.00	3.50	3.25

Source: Own research.

As can be seen, the mean score of the 100 essays is 3.56 (out of a maximum score of 5), and the standard deviation is 0.4. Thus, the essays scored four points or above were considered the best ones, while those scored three points or below were regarded as the weakest ones in terms of coherence. The range of distribution of scores is great, which may indicate that students in this study are far apart from one another in terms of writing ability; in other words, there is a marked difference between their writing in terms of coherence. The possible range of scores in this study could be 5, thus the observed range of 3.50 can be considered high. Also, it can be concluded that the participants' average writing coherence is at an intermediate level because the median value, which is the mid-point of the highest and the lowest scores, is 3.25 and the mean value of scores is 3.56. Therefore, there is not much difference between the two values.

Correlation between coherence judgments of the raters

In order to verify if there is a significant correlation between the coherence judgments of the researcher and the co-rater, a correlation analysis was done between the scores given to each essay by the two raters.

Table 3
Correlation between coherence judgments of the raters

Correlations			
			CJCR
		Correlation coefficient	.975(**)
		Sig. (1-tailed)	.000
Spearman's rho	CJR	N	100

** Correlation is significant at the 0.01 level (1-tailed).

Source: Own research.

The results show that there is a significant correlation between the coherence judgments of the researcher and the co-rater because the correlation is 0.975, which is significant at 0.01 level.

Gricean maxims

In order to provide a better picture of coherence in the essays, the Cooperative Principle and its maxims as proposed by Grice (1975) were used. The following table indicates the frequency and the mean of violations for each maxim.

Table 4
Frequency and mean of violations of the Gricean maxims

Maxims of Cooperation	Quality	Manner	Quantity	Relevance	Total
Frequency	381	437	329	185	1332
Mean per essay	3.81	4.37	3.29	1.85	13.32
Percentage	28.6%	32.8%	24.69%	13.88%	100%

Source: Own research.

Relationship between the coherence judgments and violations of individual maxims

A correlation analysis was done to determine whether there is a significant relationship between the coherence judgments of the researcher and the co--rater and the violations of individual maxims in the essays.

Table 5
Relationship between the coherence judgments and violations of individual maxims

Correlations

		QL	QN	RE	MA
	CJR				
	Correlation coefficient	-.358	-.431(*)	-.479(*)	-.361
	Sig. (1-tailed)	.070	.040	.019	.069
	N	100	100	100	100
Spearman's rho	CJCR				
	Correlation coefficient	-.367	-.458(*)	-.439(*)	-.392
	Sig. (1-tailed)	.063	.037	.025	.083
	N	100	100	100	100

* Correlation is significant at the 0.05 level (1-tailed).

Source: Own research.

This analysis indicates the following results:
- Quality maxim

The correlation between the violations of the Quality maxim and the coherence judgments of the researcher is -0.358, which indicates that there is no significant correlation (P=0.070). Similarly, the correlation between the vio-

lations of the Quality maxim and the coherence judgments of the co-rater is -0.367, which is not significant again (P=0.063).

- Quantity maxim

The correlation between the violations of the Quantity maxim and the coherence judgments of the researcher is -0.431, which indicates that there is a significant negative correlation at 0.05 level (P=0.040). Similarly, the correlation between the violations of the Quantity maxim and the coherence judgments of the co-rater is -0.458, which is significant too (P=0.037).

- Relevance maxim

The correlation between the violations of the Relevance maxim and the coherence judgments of the researcher is -0.479, which indicates that there is a significant negative correlation at 0.05 level (P=0.019). Similarly, the correlation between the violations of the Relevance maxim and the coherence judgments of the co-rater is -0.439, which is significant too (P=0.025).

- Manner maxim

The correlation between the violations of the Manner maxim and the coherence judgments of the researcher is -0.361, which indicates that there is a negative correlation, but it is not statistically significant at 0.01 or 0.05 levels (P=0.069). The correlation between the violations of the Manner maxim and the coherence judgments of the co-rater is -0.392, which is not significant either (P=0.083).

In sum, Quality and Manner maxims showed no significant correlations with the coherence judgments of the raters while Quantity and Relevance maxims showed significant correlations with the coherence judgments of the raters.

Relationship between the coherence judgments and total number of maxim violations

In addition, a correlation analysis was performedin order to see if there is a significant relationship between the coherence judgments of the researcher and the co-rater and the total number of maxim violations in the essays.

Table 6
Relationship between the coherence judgments and total number of maxim violations

Correlations			CJR	CJCR
	TOTMAX	Correlation coefficient	-.423(*)	-.481(*)
		Sig. (1-tailed)	.011	.036
Spearman's rho		N	100	100

* Correlation is significant at the 0.05 level (1-tailed).

Source: Own research.

The above table indicates that the correlation between the total number of maxim violations and the coherence judgments of the researcher is -0.423, which indicates that there is a significant negative correlation at 0.05 level (P=0.011). Similarly, the correlation between the total number of maxim violations and the coherence judgments of the co-rater is -0.481, which is significant too (P=0.036). These findings mean that the more maxims were violated in an essay, the more the raters tended to rate the essay as incoherent.

DISCUSSION

This study tried to establish the types of coherence errors/problems in the writing of Iranian university students. It should be said that the analysis of the essays in terms of coherence according to the Cooperative principle and its maxims as proposed by Grice (1975) reveals that the most violations occurred in Manner maxim (32.8%), followed by Quality (28.6%), Quantity (24.69%), and Relevance (13.88%). In the analysis of maxim violations, the violation of the Quality maxim was identified as making overgeneralisations or giving inadequate or no evidence/support for the claims/ideas. The violation of the Quality maxim indicates that students tend to commit the related kind of mistakes due to their linguistic inadequacies. That is, limited expressive ability hinders students'ability to give adequate supportive information, which causes them to violate the Quality Maxim. This means that the students cannot provide adequate evidence or support in the essays because they are unable to formulate them with the necessary lexical and structural knowledge of English.

The violation of the Quantity maxim was identified as inadequate information about the idea, as a whole paragraph or essay, and giving unnecessary details about the idea. The students find themselves restricted in providing information due to the limitations they have in using the linguistic features of the second language. This is also related to the higher number of violations of the Quality maxim in the essays by not being able to provide adequate evidence or support. As a result, they may recourse to the linguistic features of their mother tongue in their L2 writing, hence presenting more ideas and violating the Quantity maxim more by providing unnecessary details. They provide an inadequate number of evidence/support for the ideas or make overgeneralisations, thusviolating the Quality maxim in their essays. Another possible reason for these results can be related to the amount and type of writing instruction that the students have received in English.

The violation of the Relevance maxim was identified as providing irrelevant ideas to the previous and following sentences, to the thesis statement or topic sentence, and to the topic of the essay. Again, the amount and type of writing instruction can have an effect on abiding by the Relevance maxim. This means that, although the students might have received explicit writing instruction on how to provide relevant ideas and information in their English writing, they have not mastered this skill yet.

The Manner maxim was violated in terms of two aspects. The first aspect is related to the quality of expressions like obscurity and lack of clarity, ambiguity, prolixity, and inappropriate expressions in the essays. The second one is related to the organisation of ideas as required from an essay. The higher number of violations of the Manner maxim in the essays can be explained as follows: the students tend to use inappropriate expressions for an essay, leave some expressions unclear or obscure, and provide some expressions which are ambiguous.

It should be noted that the Relevance and Quantity maxims were the most negatively correlated maxims with the coherence judgments of the two raters. However, the negative correlations between the Quality and Manner maxims and the coherence judgments of the raters were not statistically significant. This finding is very similar to a recent finding by Ozhan (2004) on English academic writing. In the coherence judgments of the essays, raters tend to ignore the minor language mistakes which do not interfere with the meaning. Therefore, raters tend to ignore the obscurity, ambiguity, and prolixity sub-maxims of the Manner maxim and the Quality maxim in terms of providing inadequate evidence or support for ideas. However, they tend to pay more attention to the features that violate Quantity and Relevance maxims. Similar to Ozhan's findings (2004), the raters in this study tended to rate the essays that did not give adequate information or explanation, and did not include relevant ideas lower than the essays which included these features.

Regarding the relationship between the raters' judgments of coherence and the total number of maxim violations in the essays, it should be said that there was a significant negative correlation between the total number of maxim violations and the coherence judgments of the raters. This means that the more maxims were violated in an essay, the more the raters tended to rate the essay as incoherent. Thus, the Gricean maxims can provide adequate, meaningful, and detailed explanations on the coherence problems that are identified by the raters, as suggested by Ozhan (2004) too.

As mentioned earlier, there are a variety of approaches to coherence and there are various studies conducted in this field. While some of these studies take coherence as a concept internal to the reader, others take it to refer to the features related to the text. In this study, coherence is thought to be text-based, but the study does not deny that readers' judgments of coherence may also be affected by features outside the text. In other words, the results of this study show that Gricean maxims have a role in making a text coherent and that Gricean maxims can be used as a tool while analysing student essays. The contribution of the present study, therefore, to the field of research on coherence and ELT academic writing is that there are significant correlations between the students' adhering to Gricean maxims in their essays and the coherence ratings of raters.

In fact, Gricean maxims involve many theories of coherence. For instance, Quantity and Relation maxims are very much related to the theories of coherence from an information-oriented perspective as coherence with Quantity and Relation maxims also requires information management. The writer has to

decide how much information is to be provided to the reader, how much of this information is to be redundant, and sometimes, irrelevant. Moreover, the techniques to manage information such as theme-rheme, given-new or topic-comment, and topic development techniques can be used to adhere to the Quantity and Relation maxims. Similarly, the definitions of the Quantity and Relation maxims do not contradict the theories of coherence from a cognitive perspective because, in order to adhere to these principles, the writer has to achieve connectivity in the reader's mentally represented text. According to Thomas Givon (1995), this is done in two ways: anaphoric and cataphoric grounding. Therefore, the writer has to ensure that in the reader's mental representation of the text, new information is connected to the previously mentioned information, that is, relevant to the previously mentioned information, and that it is better for the reader to predict the coming information to be able to follow the text smoothly, which is also related with the principles of the Relation and Quantity maxim. As far as non-linguistic conceptions of coherence are concerned, they also have common features with the Gricean maxims. For instance, from a reader-based perspective, one way to achieve successful communication in written discourse for the writers is to form mental representations of the ideas the writer wants to convey, of the text as it is written, and of their readers, as they will build from the text. In order to give sufficient, relevant information with evidence where necessary, the writer needs to take the reader into account, for instance, by considering the reader's world knowledge, linguistic conventions in that culture (how language works) or in that particular text type, and reader's intellectual sophistication so that the writer can adjust his/her content and language accordingly.

Moreover, the reader's formal schemata also play a role in judging a text as coherent, and it is important that the writer create a text which adheres to the principles of the particular genre and text type. This is also what the principles of the Manner maxim emphasise (be orderly), and other principles of the Manner maxim are always applicable in any type of communication so that the communication is clear and meaningful, which also contributes to coherence.

Conclusion

As the violations of Gricean maxims in this study indicate, the Relevance maxim can be superordinate and can affect or be affected by the violation of the other maxims. In addition, the violation of individual maxims can be related to the violation of the other maxims. Also, it was found that the basic problem of the students in their essay writing was the way the text should be structured with reference to how cohesion and coherence are established. One possible reason for the students' failure to write an acceptable essay on the norms of the English language may be the powerful influence of their writing strategy in Persian. The students' attitude towriting may be strongly influenced by the manner of writing in Persian, in which the main purpose is to provide as

much information as possible for the subject of discussion without having any organised pattern to follow, which is a conclusion also drawn by Abbas Edalat (2004).

A final word is that although there were some limitations in this study, it may be considered a helpful contribution, particularly in Iran, where few studies have examined coherence in Iranian EFL learners' writing, especially through the use of two criteria for the assessment of coherence.

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