



Tarbiat Moallem University
Department of Foreign Languages

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M.A. Degree in Teaching English as a Foreign Language (TEFL)

**The Relationship between EFL Learners'
Linguistic and Logical Intelligence and
the Frequency and Types of Informal Fallacies and
Evidence in Argumentative Writing**

Supervisor:

Dr. M. R. Atai

By:

Mavaddat Saidi

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IN HIS NAME

*To my family who taught me
how to go on in the face of difficulties
and
to my teachers who taught me
not only from the book but also from the heart*

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Abstract

The present study aimed at investigating any possible relationship between linguistic and logical-mathematical intelligence scores of foreign language learners of English and the frequency of use and types of informal fallacies and evidence they employ in their argumentative essays. To this end, 70 upper-intermediate EFL learners (all female) were selected from two Iranian language institutes. To measure the participants' linguistic and logical-mathematical intelligence scores, relevant items excerpted from Multiple Intelligences Developmental Assessment Scale. The learners' frequent types of informal fallacies and evidence were identified by Johnson' (1998) as well as Walton, Reed, and Macagno's (2010) evaluation schemes. The results of Pearson-product moment correlation revealed a statistically significant relationship between two types of intelligence and the frequency of informal fallacies and evidence. However, regression analysis proved none of the two intelligences to be of predictive role in explaining the use of informal fallacies and evidence. Based on the obtained findings, some implications are discussed and suggestions for further research are presented.

Key words: Linguistic Intelligence, Logical-mathematical Intelligence, Informal Fallacies, Evidence, Argumentative Writing

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Chapter One

Introduction

1.1. Overview

As "a blend of structuring, formulating, and reacting to inner and outside worlds" (Marefat, 2007, p. 151) and a manifestation of "several distinct human capabilities" (Grow, 1990, p. 3), writing instruction has always been considered as a challenge for language teachers (Gordon, 2008). What is clear is that notwithstanding personal, social, and cultural differences, achieving proficiency with writing in a target language is not an impossible goal, but the extent to which it is achieved is affected by individual variables (Rubin, 1975). Additionally, the turn of the tide from conventionally teacher-centered instruction to more learner-centered methods has also stimulated attention to the learners' affective factors and individual differences much more inevitable in every stage of the learning process (Po-Ying, 2006). Among these distinguishing variables, one which has received less attention especially in EFL contexts is the learners' multiple intelligences (Song Lei, 2010).

Being aware of the students' intelligence profiles would help the instructors to make more informed decisions about their teaching techniques (Brualdi, 1996) and to make use of the students' strengths to guide them on the path of acquiring knowledge in a more effective way (Currie, 2003). As Marefat (2007) pinpointed, Gardner's theory of multiple intelligences is of implications for teaching and assessment in general and writing in particular. Moreover, Grow (1990) documented the facilitative role of the linguistic and logical-mathematical intelligence types in enhancing the precision of language as well as of thought during writing process. In this chapter, the possible link between EFL learners'

multiple intelligences and their written production is stated as a problem to be investigated and its significance is justified. Then, the research questions and hypotheses along with the definition of the key terms and finally, limitations and delimitations of the current study are presented.

1.2. Statement of the Problem and Purpose of the Study

As a discovery process, writing establishes a link between thought and speech through providing the learners with an appropriate environment for continuous learning (Auerbach, 1992, Cited in Cumming, 2002). So, the writer's task is no longer creating a representation of the reality but rather negotiation of their own views on the issue (Matsuda, 1997).

Hence, what has recently attracted the scholars' attention was mainly the learners' argumentative writing since the recent trends put high emphasis on critical thinking and power of argumentation (Alagozlu, 2007). Nevertheless, what actually counts is no longer the argumentation itself but the power of convincing the audience. This is why enabling the learners to judge the coming ideas in terms of their rationality (Alagozlu, 2007) as well as the three standards of relevance, sufficiency, and acceptability (RSA) have come to the fore (Johnson, 1998) due to their determining role in proving innovative ideas and findings. To this end, avoiding any fallacy, i.e. "error in reasoning" in Johnson's terms (1998, p. 251), to strengthen the convincing power of arguing one's claims, seems vital. The vitality of this issue becomes much more evident when it comes to the international exams, e.g. TOEFL, IELTS, in which language learners are engaged in serious

writing tasks that should be convincing enough to bring about desirable scores. Additionally, the growing changes in the criteria for publishing articles in international journals has doubled the significance of presenting fallacy-free reasoning in order to justify the findings as rationally as possible. These all have added to the significance of argumentation text type especially in academic contexts (Nemeth & Kormos, 2001). As a result, scholars have been involved in probing the structure of argumentation and identifying argumentation schemes for years (Walton, Reed, & Macagno, 2010) in order to examine the quality of language learners' argumentative essays (Helms-Park & Stapleton, 2003; Liu & Brain, 2005; Qin & Karabacak, 2010). However, as its development seems to be a prerequisite to success for those wishing to pursue their studies in a new language, writing is not often prioritized in modern communicative language classrooms, (Gordon, 2008). This might be why the available literature suggests the non-native speaking students' difficulty in their studies at the college or university level in English-speaking countries (See Hinkel, 2004).

On the other hand, the influence of individual variables on the level of writing proficiency (Rubin, 1975) pushed the researchers to make serious efforts to tap into individuals' distinct capabilities. Although some studies have touched upon the issue to reveal its possible link with the language learners' use of language learning strategies (Akbari and Hosseini, 2008), language proficiency (Akbari & Hosseini, 2008; Yeganefar, 2005), and reading achievement (McMahon et al., 2004), multiple intelligences have not influenced writing, though it has evoked some innovative researches like those by Grow (1990), Borek (2003), Marefat

(2007) and a more recent one by Eng and Mustapha (2010) which offered some activities gearing to different intelligences.

Hence, the significance of the argumentative writing in academic contexts along with the crucial role of individual differences, mainly multiple intelligences within the educational settings, prompts this question whether the learners' multiple intelligences especially the aforementioned intelligences would be of relevance to their strength of argumentation when they write a piece of argumentative essay. To answer this question, the current study aimed at probing the possible relationship between Iranian upper-intermediate EFL learners' linguistic and logical-mathematical intelligence and the frequency of use and types of informal fallacies and evidence in their argumentative essays.

1.3. Significance of the Study

As Alagozlu (2007) maintains, the recent trends with their high emphasis on the power of argumentation and critical thinking prompted a shift of attention towards the argumentative text type. As a result, giant steps were taken to study the factors which might be influential in language learners' argumentative essays (Helms-Park & Stapleton, 2003; Liu & Braine, 2005; Qin & Karabacak, 2010). In this regard, the factor which has been mostly studied was language learners' gender (Carillo & Benitez, 2004; Herring & Paolillo, 2006; Jones & Myhill, 2007) whereas informal fallacies as "one of the yardsticks in the quality of argument" (Atai & Nasser, 2010, p. 20) have not been much focused on. Although some studies were conducted to examine the occurrence of fallacies of written

argumentation in terms of the participants' gender, age, and discipline through a quantitative design (Alagozlu, 2007; Atai & Nasser, 2010; Ricco, 2007), no study in the current literature has touched upon the possible link between Iranian EFL learners' fallacies of written argumentation and their individual differences.

Notwithstanding some studies in which an effort has been made to bridge the written products of EFL/ESL learners with their multiple intelligences (Borek, 2003; Eng & Mustapha, 2010; Grow, 1990; Marefat, 2007), the existing literature suggests that no study has investigated the occurrence of informal fallacies and evidence types in Iranian EFL learners' argumentative essays in relation to their multiple intelligences.

Therefore, in using multiple intelligences theory as a lens into writing, the main interest of this study was to find out whether Iranian EFL learners' linguistic and logical-mathematical intelligence would predict the frequency of use and types of informal fallacies and evidence types in their written argumentation. It is worth noting that informal fallacies and evidence types have been intentionally chosen as two elements which would influence the strength of an argumentative essay. On the other hand, although Grow (1990) found four intelligences including linguistic, logical, and two personal ones as clearly related to writing, among them, only the linguistic and logical ones have been deliberately selected by the researcher since they seemed to be of more significance than the other types of intelligence when the students are involved in an analytical process of writing an argumentative essay.

1.4. Research Questions and Hypotheses

Aiming at examining the frequency of use and types of informal fallacies as well as evidence types in Iranian EFL learners' argumentative essays in relation to their linguistic and logical-mathematical intelligence, the following questions were of main concern to the researcher in this study.

1. Is there any relationship between EFL learners' linguistic intelligence and their use and types of informal fallacies in their argumentative essays?
2. Is there any relationship between EFL learners' linguistic intelligence and their use and types of evidence in their argumentative essays?
3. Is there any relationship between EFL learners' logical intelligence and their use and types of informal fallacies in their argumentative essays?
4. Is there any relationship between EFL learners' logical intelligence and their use and types of evidence in their argumentative essays?

To answer the aforementioned questions, the following null hypotheses were formulated:

H0-1: There is no relationship between EFL learners' linguistic intelligence and their use and types of informal fallacies in their argumentative essays.

H0-2: There is no relationship between EFL learners' linguistic intelligence and their use and types of evidence in their argumentative essays.

H0-3: There is no relationship between EFL learners' logical intelligence and their use and types of informal fallacies in their argumentative essays.

H0-4: There is no relationship between EFL learners' logical intelligence and their use and types of evidence in their argumentative essays.

1.5. Definitions of the Key Terms

Argument

Johnson (1998) defines argument as "an identifiable piece of reasoning in which a point is expressed and reasons are offered for that point" (p. 7). Gordon and Walton (2009, p. 1) state an argument plays the role of "a bridge between a set of premises and the conclusion". They include the deductive and inductive forms of argument as well as a third category, called defeasible. Additionally, in Tindale's (2007) view, arguments have several types and a range of strengths.

Argumentation Schemes

Walton et al. (2010, p. 11) state that "argumentation schemes are the forms of argument (i.e. structures of inference) that enable one to identify and evaluate common types of argumentation in everyday discourse". It has also been defined as "a pattern which can be used both to create arguments, by instantiating the pattern, and to classify arguments, by matching a given argument to the pattern" (Gordon & Walton, 2009, p. 2).

Evidence

Based on Reynolds and Reynolds (2002), evidence is "data (facts or opinions) presented as proof for an assertion" (p. 429). Kemerling (2002) defines evidence as "support for the truth of a proposition, especially those that derive from empirical observation or experience" (Cited in Alagozlu, 2007, p. 120). Hoeken and Hustinkx (2003) categorized evidence in four groups of a) statistical, b) anecdotal, c) casual, and d) expert evidence. In the other categorization of evidence types, Ramage and Bean (1999) distinguished nine main types of evidence including "a) personal experience, b) research studies, c) citing authorities, d) comparisons and analogies, e) pointing out consequences, f) facts, g) logical explanations, and h) precisely defining words"(Cited in Alagozlu, 2007, p. 120).

Fallacy

In Johnson's (1998) words, fallacy is "an error in reasoning" (p. 251). In his definition, some fallacies which can be detected "by the examination of the *form* of the argument" are called formal fallacies while all other fallacies are called informal ones which can be detected "by the examination of the *content* rather than the form of the argument" (p. 251). Johnson holds that experts do not have consensus over the uniform classifications of the informal fallacies. However, the main types of informal fallacies are a) Ad Hominem, b) Appeal to tradition, c) Begging the question, d) Fallacy of either/or (Black and white fallacy or false dichotomy), e) Faulty analogy, f) Hasty generalization and sweeping