

TEACHING THEMATIC STRUCTURE IN GREEK THROUGH DESIGN-BASED RESEARCH

Its effects on student argumentative written productions

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Abstract

In ESL/EFL literature, it is suggested that teaching topical structure analysis helps students improve coherence in writing. This paper aims at presenting an integrated thematic structure teaching model for Greek secondary education and arguing for its impact on student argumentative text writing in terms of cohesion and coherence. The research methodology followed was design-based, involving two pre-tests and two post-tests student writing samples, field notes derived mainly from three non-participant observers and the teacher-researcher, and four focus group student interviews, along with two observer interviews. The findings indicate that student writing significantly improved following this intervention. In addition, student post-test performance was closely related to the explicit and systematic teaching of thematic structure. These results suggest that the new model can further be used in developing the writing skills of secondary education students.

Keywords: argumentative texts, design-based research, student writing, teaching model, thematic structure

1. INTRODUCTION

Having taught Greek as a first language for several years in the Greek secondary educational system, I observed that Greek students often tend to introduce irrelevant information and ideas in their writing. This lack of coherence is reflected in cohesion as students fail to use appropriate connectives. Such problems have already been noticed by Goutsos & Bakakou-Orfanou (2006) and Goutsos (2007). Specifically, Goutsos highlights the poor usage of discourse markers and problems in genre organization. He observes that, although students are familiar with narrative genres such as personal recounts, they have greater difficulty in abiding by the conventions of non-narrative genres, including descriptive and argumentative texts. As a result, Greek students often insert disparate ideas in their writing, which are not logically connected to each other.

Originally proposed by Lautamatti (1987), topical structure analysis has proved to be an effective revision strategy among ESL/EFL tertiary students in improving coherence and the overall quality in their writing (Cerniglia et al., 1990; Chiu, 2004; Connor & Farmer, 1990; Fan, 2008; Fan & Hsu, 2008; Liangprayoon et al., 2013; Lovejoy, 1998; Sakontawut, 2003). By following this method, students learn to identify semantic relations between sentences and relate each sentence to discourse topic and thus eliminate irrelevant sub-topics or other information.

In a nutshell, topical structure analysis consists in identifying the topic and comment of a sentence. The topic can be interpreted “simply as the main idea or topic in a sentence, which often coincides with the grammatical subject”, while comment is “what is being said about the topic”, which is often the grammatical predicate (Connor & Farmer, 1990, p. 128). According to Lautamatti (1987), there are three possible types of topical progression or development in discourse: a) parallel, when the topics of successive sentences are identical, b) sequential, when topics are different and, usually, the topic of the next sentence derives from the comment of the preceding one, and c) extended parallel, when a basic topic reappears following an interruption by sequential progression.

Topical structure analysis can be a useful teaching tool, as it helps students focus on text structure and evaluate the coherence of their own discourse. Students are instructed to properly manage given and new information in each sentence, to reinforce their ideas, to elaborate on them and to bring back main topics in order to achieve closure (Cerniglia et al., 1990, p. 238). The readability of their pieces of writing is thus enhanced (Sakontawut, 2003).

Despite this, there are several limitations relating to the way this method has been applied. Firstly, the aforementioned types of topical development were taught as generalized principles without being tied in with the typical features of discourse modes and related genres (Lee, 2002), although it has been found that text organization and progression are sensitive to both mode and genre (Caffarel, 2006; Fries, 1983; Lavid, 2000; Lavid et al., 2010; Malmén, 2020a, 2020b; Martin, 1993; Martin & Rothery, 1993).

Secondly, there is vagueness surrounding the meaning of sequential progression since this type encompasses every topic not identical to the previous one. This is why Schneider & Connor (1990, p. 422-423) suggest more subtle distinctions, which are taken into account by Liangprayoon et al.'s (2013) analysis. Sakontawut (2003, pp. 68-69) has also designed a topical traceability analysis in order to identify whether the topic is traceable from the immediate or distant context. A topic derived from previous comments and an irrelevant topic cannot belong to the same type since proper usage of the former contributes to reasoning, thus resulting in coherent texts, while the latter reflects incoherence and overall poor writing quality. Consequently, educational research which has not clarified the exact nature of consequential progression cannot lead to clear findings.

Thirdly, topical structure analysis considers only 'what the sentence is about', thus ignoring other aspects of the parallel term 'theme' as "the point of departure of the message" (Halliday & Matthiessen, 2004, p. 64, 2014, p. 89). Moreover, in contrast to English, Greek is a language with flexible word order (Holton et al., 2012, pp. 518-521). For example, verbs often appear at the beginning of sentences, so it is difficult to recognize the topic as simply the first element in a clause (Goutsos, 1994a, p. 125). In brief, communication needs, the information value of sentence constituents (Clairis & Babiniotis, 2004, pp. 695-703; Lascaratou & Georgiafentis, 2013), text-strategic motivations (Goutsos, 1994b) and subject features such as definiteness, categorial complexity and size (Lascaratou, 1989) largely affect word order and are significantly involved in text structure. Accordingly, topical structure analysis cannot be easily applied to Greek data.

The aims of the current study are:

- 1) to present a thematic structure teaching model, which was applied in a Greek secondary educational setting over a period of six months, and
- 2) to demonstrate the teaching model's effects on improving the cohesion and coherence of student argumentative text writing.

Section 2 describes the theoretical framework of thematic structure in Greek, upon which the teaching model is founded. Section 3 explains the main reasons, for which the methodological paradigm of design-based research was selected, presents the tools used for collecting data and analyses the basic aspects of the teaching model and the teaching methodology. Section 4 then moves on to a (brief) quantitative analysis of the results while Section 5 yields a qualitative analysis, elucidating critical patterns of pre- and post-tests.

2. THEMATIC STRUCTURE IN GREEK

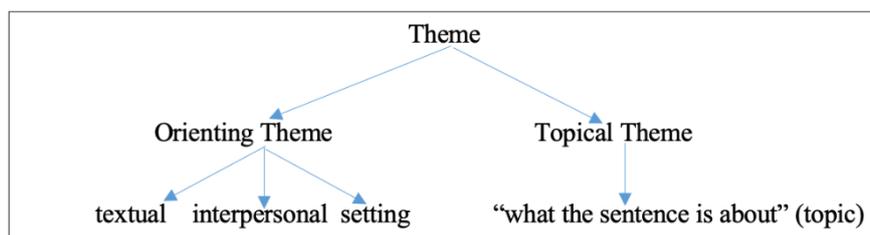
In Systemic Functional Linguistics thematic structure is concerned with the organization of the "clause as a message or quantum of information in the flow of discourse" (Halliday & Matthiessen, 2014, p. 88). According to Halliday & Matthiessen, each clause consists of two fundamental constituents: the Theme and the Rheme. The theme is defined as "the point of departure of the message" and is

selected by the speaker (or writer). The remainder of the message is called the rheme (Halliday & Matthiessen, 2014, p. 89). The choice of theme for every clause is not random but is related to the way information is developed throughout the text (Martin et al., 1997). Hence, thematic structure comprises thematic progression (Daneš, 1995).

My pilot research into Greek authentic texts has suggested that Halliday's Systemic Functional Grammar, which is meant to be applied to English, is unable to adequately interpret Greek thematic structure in all cases, mainly due to the flexibility of word order, as has already been noted by Goutsos (1997). Consequently, this theory is employed in my analysis in the context of its adaptation to French (Caffarel, 2006), Spanish (Lavid et al., 2010) and Greek (Goutsos, 2013) and in combination with notions developed in other functional theories such as Functional Sentence Perspective of the Prague School (Mathesius, 1939[1947]; Firbas, 1992), Functional Grammar (Dik, 1997a, b), and Sentence Information Structure (Lambrecht, 1994).

In my view, Theme can be seen as an overarching concept, consisting of an *orienting theme* and a *topical theme*, as depicted in Figure 1:

Figure 1. Theoretical proposal for theme



The *orienting theme* encompasses sentence-initial elements, which serve an “orienting function” (Mauranen, 1993, p. 100) or act as “a kind of guidepost” (Chafe, 1984, p. 444) to the rest of the message, thus contributing to text cohesion. These may be a) textual and interpersonal themes (Halliday & Matthiessen, 2014, pp. 105-109), namely discourse markers, conjunctions, continuative, modal adjuncts, modal clauses, vocatives, etc. and b) constituents that have an experiential function. The latter are adverbials, i.e., adverbs, adverbial clauses, prepositional phrases, etc., which express space, time, cause, condition, etc., and provide the setting for the main information (Firbas, 1992).

The *topical theme* is identified with the topic mentioned in Section 1 (Connor & Farmer, 1990; Lautamatti, 1987). The same term is used by Dik (1997a), who focuses on discourse topic, and Lambrecht (1994), who analyses sentence topic. In fact, both Dik and Lambrecht highlight the property of either a discourse or a sentence being “about” a referent or an entity. Partly, this coincides with topical (ideational) theme,

as called by Halliday & Matthiessen, according to whom the topical theme comprises experiential elements, which may be the process itself, the participants in the process and any circumstantial factors, such as time, place, manner etc. However, in the current study, I use the term *topical* to include constituents which the sentence is about and do not only have ideational meaning, but also perform the basic syntactic functions of subject, object and -more rarely- attribute. In Greek, topical theme is encoded through independent nominal phrases or verbal suffixes.

Furthermore, following Caffarel (2006) and Lavid et al. (2010), I accept that there may be multiple ideational themes in each sentence, either orienting or topical. Lastly, according to Functional Sentence Perspective, both orienting and topical themes carry low degrees of Communicative Dynamism (Firbas, 1992). As a result, thematic elements usually (but not always) express known information, i.e., information that is context dependent.

As already stated, besides theme, the other fundamental constituent of the message is the Rheme or Comment. Although Halliday's Systemic Functional Grammar and the Prague School use the term *rheme*, in this paper I adopt the term *comment* (Connor & Farmer, 1990; Gundel, 1988; Lambrecht, 1994; Lautamatti, 1987) for teaching purposes. Specifically, in Greek *rheme* is called "rhema", which also translates into "verb", thus causing confusion among students.

In each clause or sentence, the comment (rheme) elaborates the theme (mainly the topical theme) and expresses unknown/new or crucial information for the reader, contributing to the development of communication. Consequently, the comment has a higher degree of Communicative Dynamism than the theme. Note that there are sentences without theme, but there cannot be rhemeless sentences (Firbas, 1992, p. 93).

Within the comment there is an element that carries the highest degree of Communicative Dynamism and is called Focus (Dik, 1997a, b; Gryllia, 2008; Lambrecht, 1994; Skopeteas & Fanselow, 2010; Zimmermann & Onea, 2011). Focus is usually "the most salient piece of new information" (Holton et al., 2012, p. 530). Focal information may also indicate contrast in the given context or may be emphatic so that the addressee shows particular attention to it (Lavid et al., 2010, p. 338). In Greek, it is marked through intonation, word order, cleft constructions (Dik, 1997b; Lambrecht, 2001), as well as lexical items, such as *akoma kai* (*even*), *mono* (*only*), *kanis* (*nobody*), *pada* (*always*), etc. Its neutral position in unmarked structures is the end of the sentence.

The above theoretical proposal of thematic organization can be illustrated in the analysis of the following sentence:

[1] Με αυτές, δυστυχώς, τις διαπιστώσεις ο νους μας έρχεται στο μεγάλο κοινωνικό στρώμα των ανέργων. (Zois Tsolis, To Vima, 16/04/2017)

"With these, unfortunately, findings our mind comes to the large social stratum of unemployed".

Table 1. Sentence analysis based on the theoretical proposal

Orienting Theme	Topical Theme	Comment
a) <i>Με αυτές τις διαπιστώσεις</i> adverbial of manner	<i>ο νους μας</i> (subject)	<i>έρχεται στο μεγάλο κοινωνικό στρώμα των ανέργων</i>
b) <i>δυστυχώς</i> : interpersonal theme		Focus: <i>ανέργων</i>

In light of this theoretical framework, text linguistic research was carried out by examining a sample of 100 authentic texts from three discourse modes: narrative, descriptive, and argumentative (Malmén, 2020a, b), which were meant to be taught in accordance with the requirements of the Greek National Curriculum (2011) for Junior High School students. The results of text linguistic research, which concerned grammatical and semantic features of Theme as well as patterns of thematic progression/development in each discourse mode, were used in order to construct a thematic structure teaching model.

It must be noted that the typology of thematic progression applied in the aforementioned research as well as in the educational research, which is the object of the current paper, was the following:

Figure 2. Typology of thematic progression

1) "Linear thematic progression"	} Daneš' (1974)
2) "Development with a stable theme"	
3) "Development with derived themes"	
4) "Progression from comment to comment" (vande Kopple, 1989; Cloran, 1995)	

Daneš' linear thematic progression is defined as the instance where the content of a theme stems from the comment of a previous sentence. However, in the present research, drawing on Mauranen (1993), linear progression includes also the instance in which the theme is formed by the entire content of the previous sentence. Development with a stable theme is instantiated when there is iteration of a theme, either topical or orienting theme with experiential function, in the subsequent comments. I have integrated "extended parallel progression" (Lautamatti, 1987) into development with a stable theme, because most of the time, at the end of a paragraph or a text, the reappearance of a theme indicates that this theme is stable. Development with derived themes occurs when different aspects of a hypertheme are thematized as discourse unfolds. Lastly, progression from comment to comment encompasses sentences through which the author sets examples, illustrates, or elucidates a previous comment. These sentences are usually themeless.

The analysis of the sample argumentative texts suggested that linear progression is the most common pattern of thematic development. Then comes development with a stable theme and progression from comment to comment, while

development with derived themes is not so typical of the argumentative mode. All these are presented in detail and are illustrated in Malmen (2020a, b).

3. METHODOLOGY

The rich text grammar repository that was derived from the above theoretical framework was customized for classroom use in Greek Secondary Education, with a view to validating its effectiveness for improving student writing in terms of cohesion and coherence. In this respect, educational research was conducted in two second-grade classes at Zanneio Experimental Junior High School (50 students on the whole) by applying the methodological paradigm of Design-Based Research (hereinafter DBR) (Cobb et al., 2003; Collins et al., 2004; Reimann, 2011; Shavelson et al., 2003).

DBR was used in order to apply the aforementioned theoretical proposal and the related text linguistic research to the teaching process, thus finding out whether the theory “provides detailed guidance in organizing instruction” (Cobb et al., 2003, p. 10). Testing text theory in practice aims at both fulfilling the needs of a local context and advancing a theoretical model of how people learn (Barab & Squire, 2004, p. 5) and develop writing skills. Most importantly, student cohesion and coherence errors in writing can be fully captured with a crucial characteristic of DBR, namely “departing from a problem” (McKenney & Reeves, 2013, p. 98). In order to tackle the current problem, i.e., student writing, it was necessary to design and implement a systematic teaching intervention.

Overall, the teaching of thematic structure to students aged 14-15 was a highly demanding task, as thematic structure constitutes a complex phenomenon with which students were not familiar in the Greek educational system. In addition, the investigation of effects on writing required me to create a design intended to be taught for at least several months. The research process thus involved multiple iterations of the design conceived (Anderson & Shattuck, 2012, p. 17), that is closely associated cycles of trial-analysis-modification, with the view to improving the designed artifact and facilitating learning (Shavelson et al., 2003, p. 26). To this end, the feedback given by the observers and students was also taken into account.

3.1 Methods of data collection

Data consisted in pre- and post-tests student writing samples. For argumentative student writing, students were assigned to write two texts, i.e., one initial and one revised essay, both before and after the teaching intervention (see Appendix A). As a researcher and teacher at the same time, I compared and analyzed all the samples in terms of their qualitative characteristics. However, it was considered necessary to quantify data, so that tendencies, patterns and changes in writing could be specified (Iosifidis, 2008, p. 188). For this reason, the essays were graded by me and two other highly qualified and experienced Greek teachers. Two marks were provided for each essay.

The first mark assessed textual structure based on certain criteria derived mainly from the theoretical proposal and the text linguistic research that preceded. The criteria used for assessing the argumentative texts were as follows:

- a) Maintaining a central topical theme throughout a paragraph by possibly reinstating it at the end of the paragraph (by using relevant themes and information throughout the paragraph)
- b) Transforming comment to theme in order to create the appropriate syllogism
- c) Progressing from comment to comment
- d) Using textual markers and interpersonal themes at the beginning of each sentence and paragraph
- e) Dividing paragraphs by using a topical sentence, including details and (optionally) having a concluding sentence for each paragraph
- f) Maintaining the typical structure of a text, namely introduction, main body, conclusion, and ensuring logical progression across these parts

Criteria a) and b) were each assigned two grades in the scale of 1 to 10, while the remaining criteria were assigned 1.5 each in the scale of 1 to 10. Two reasons determined this assessment. Firstly, criterion a) constitutes the starting point of the intervention, whereby the development with a stable theme is an essential type of thematic progression in argumentative texts (Malmén, 2020a, b). Secondly, as cited in Section 2, linear development, described in criterion b), is the most common pattern of thematic development. The greater the frequency of applying criteria b), c), and d) correctly in a piece of writing the greater the mark assigned to it. More specifically, if a piece of writing contained five or more instances of proper use of the criteria described above, it would be considered an excellent piece of writing, thus getting top score. Inversely, when there was one instance of applying these criteria, be it correctly, or in the absence of such instance, this writing piece would be considered as a sample denoting poor performance.

The second mark was in the scale of 1 to 20 and referred to overall writing quality, according to the guidelines for assessing Modern Greek provided by the Institute of Educational Policy in Greece. These guidelines suggest equal evaluation of three components: a) content, b) structure and c) use of language. Subsequently, I ran statistical tests via SPSS in order to describe and analyze the general tendencies in my data.

Practice tests concerning thematic structure and essays were also collected throughout the teaching intervention in order to evaluate student learning level and potential development stages appearing in student writing. The analysis of practice tests and essays also provided feedback for redesigning and tailoring the teaching material to student needs.

Furthermore, observation was used for collecting data, so that the teaching and learning process could be recorded and assessed. This is critical in conducting DBR, because it is process-focused, as it investigates how subjects think and learn (Design-Based Research Collective [DBRC], 2003; Shavelson et al., 2003). The researcher,

based on field notes and writing pieces during the whole period of the intervention, is able to make “process-oriented explanations” (Reimann, 2011, p. 43), which do not encompass just an order of actions, but “establish causality in the trajectory” (Reimann, 2011, p. 44), i.e., what brought about change and improvement. This causal account substitutes for the control group, which is not predicted when carrying out DBR.

In the present study the primary observational role adopted was that of “non-participant observer” (Creswell, 2015, p. 213), who kept descriptive and reflective field notes. In the beginning, the observation was “highly structured”, depending on questions and categories worked out beforehand. Afterwards, it became “semi-structured” (Cohen et al., 2018, p. 543). Three persons, one experienced Greek teacher and two postgraduate students, were the non-participant observers. In addition, as a teacher-researcher, I tried to assume the role of a “participant observer” (Creswell, 2015), keeping reflecting field notes after the end of each teaching hour. These were compared and cross-checked with all three observers. As a result, a thorough and more objective view of the learning trajectory was made possible.

The last method employed was the interview. I opted for a focus group interview (Cohen et al., 2018, p. 527; Creswell, 2015, p. 217), as it is not time-consuming and provides the opportunity for subjects to interact and complement each other by focusing on special issues. After the end of the teaching intervention, I made up four groups, each consisting of four persons. In order to decide on the students to participate in each group, I used the strategy of homogeneous sampling (Creswell, 2015, p. 207). Accordingly, two groups comprised students of high level, while the other two had students of medium level. Additionally, the strategy of confirming and disconfirming sampling was employed (Creswell, 2015, p. 208), because the interviews conducted were not the main research tool but were employed with the purpose to check and verify the truth and precision of the results from the other tools.

Last of all, one-on-one interviews with the two out of three non-participants observers were also carried out with the objective to review the teaching intervention on the whole. The combination of these research methods aimed at ensuring triangulation of data, in order that the findings can be “both accurate and credible” (Creswell, 2015, p. 259).

3.2 Retrospective analysis

According to DBR, upon completion of the teaching intervention, a comprehensive and trustworthy narrative and causal account needs to be created. The account both provides the detailed series of events that took place and links processes to outcomes in the particular setting (Cobb et al., 2003; DBR Collective, 2003). For reasons of space, the current paper will be limited to a brief outline of the

intervention, the basic elements of the teaching methodology, and critical aspects of the thematic structure teaching model as applied.

3.2.1 *The intervention*

The teaching intervention started on 22nd October 2018 and ended around mid-April 2019. The thematic structure was integrated into the subject of Modern Greek language, which is taught during two consecutive 45-minute teaching sessions, i.e., a total of 90 minutes on site instruction weekly, as prescribed by the National Curriculum. At the same time, students had the opportunity to attend an optional writing workshop, designed to deepen their understanding of the thematic structure and allow them to practice more. The workshop was held twice a week beyond school hours for a total of 90 minutes.

3.2.2 *Teaching methodology*

Teaching methodology was principally founded on the genre teaching/learning cycle (Rothery, 1994), which has subsequently been commented by Martin (2009), Rose (2015) and Koutsogiannis (2017). In brief, this cycle contains three stages: *deconstruction*, *joint construction* and *independent construction*. In all stages, teaching process takes into account *setting context*, emphasizes the importance of *building field*, and goes towards *control of skills, knowledge and language* with a *critical orientation to genre*.

The said cycle was readapted to meet the needs of this research. The first stage of the cycle is deconstruction, in which the teacher guides students to examine one or more model texts of the genre to be written. In the present teaching intervention, students were asked to analyze thematic structure of several authentic texts taken from narrative, descriptive and argumentative texts. Under my guidance, the learners were assigned to observe, explore the function of lexicogrammatical constituents and the patterns in the examined genres, compare their different thematic structure, and select the appropriate structural and language features to be used in writing their own texts. At the same time, students were called to build upon the field of the teaching unit by discussing the ideas comprised in each text with their fellow students and by exchanging comments. From the above, it follows that language teaching was explicit and systematic (Knapp & Watkins, 2005; Myhill et al., 2016).

In the phase of joint construction, students worked in pairs or small groups and wrote mostly paragraphs relating to the subject matter of the teaching unit. In this stage, they tried to apply the language knowledge obtained in the previous phase to their personal pieces of writing, while the teacher role was to “scaffold” student learning and writing.

The independent construction in this intervention included two sub-phases. In the first sub-phase, students were called to individually write a text trying to abide

by the conventions of the genre. In the second sub-phase, students revised their written production allowing for feedback provided by their teacher and their classmates. Thus, teaching writing combined strategies belonging to the process approach (Hyland, 2016).

Furthermore, a pedagogical tool exploited in the teaching process was the orchestration of metalinguistic discussion (Myhill, 2016; Myhill et al., 2016), in other words a “metatalk” about writing (Myhill, 2018, pp. 15-16). Following the related literature, metalinguistic discussion refers to opportunities for discussing in class the linguistic choices made by published writers to meet their rhetorical goals. Later, the talk is centered on commenting upon, justifying, and correcting the students’ original production or their classmates’ language choices so that their pieces of writing would satisfy the communicative purposes as set out by the student authors. In this way, learners would be introduced to “a network of interrelated meaningful choices” (Halliday & Matthiessen, 2014, p. 49) and would have the opportunity to develop metalinguistic understanding about writing (Myhill, 2011; Myhill & Jones, 2015).

3.2.3 *Thematic structure teaching model*

Thematic structure was taught along five successive cycles, where all three stages of the genre teaching were reiterated per cycle. In the *first cycle*, the main objective was to introduce students to text analysis. This was achieved by working with authentic texts suitable for student age and interests, as well as with worksheets comprising clear guidelines. The texts used in class were a) narrative, such as personal, historical and biographical recounts, literary narrations and news stories, b) descriptive, such as person, object, building descriptions and process descriptions and c) argumentative, i.e., expositions and discussions. The focus was mainly on argumentative texts.

In the beginning, the deconstruction of texts was detailed. With my help, students were called to examine each sentence closely, locate and underline *what the sentence is about* and its syntactic function (i.e., the subject in this cycle), *what is talked about [in the sentence]* and *given versus new information*. Once this was done, learners would have to connect all the above with sentence position. At the final stage, they would have to find the initial words or phrases and their meaning. It is worth noting that no use of metalinguistic terminology, such as *topical or orienting theme, comment* etc. was made in class. Equally important is the fact that the discovery of structural linguistic features of each text was associated with the discourse mode and the genre to which it pertained.

Upon completion of the deconstruction of the first text, I prompted students to find two terms appropriate for the following: (a) *what [the sentence] is about* and (b) *what the new information which expresses or states something about (a) is*. Students made reasonable attempts to answer this question and justified their choices. As a result, when I used metalanguage such as (*topical*) *theme* and *comment*, most of the students seemed to be able to understand and distinguish the terms employed.

Three more texts were analyzed in the same way. The teaching goals were to assist students in assimilating the (topical) theme and the comment, and identifying the types of thematic progression, namely progression with a stable theme, linear development, progression with derived themes and development from comment to comment, without drawing on metalanguage. Field notes were cross-checked and revealed that students did not encounter difficulties in finding the stable theme and its sub-type extended parallel progression, whereas it was hard for most students to comprehend the other types and for this reason I prepared and showed diagrams of the thematic structure of these texts.

Whether used within the formal curriculum or during the writing workshop, the subsequent texts were deconstructed with less detailed worksheets, which comprised tables and diagrams, in which the students had to fill either the topical theme or the comment and justify their answer. Additionally, worksheets comprised questions aimed at initiating a metalinguistic discussion in class (Myhill, 2016; Myhill et al., 2016). For instance, students were asked to explain why the underlined constituents were strategically placed in specific sentence positions. They were also asked to explain the relationship between some sentences and their preceding discourse.

Generally speaking, during the deconstruction phase of the first cycle, observers concurred that students became progressively more familiar with text analysis, depending on their educational level. This resulted in me having to intervene less as new texts were introduced. Thanks to continuous practice, students were able to identify the topical theme and the comment, as well as the types of thematic progression. Progression with derived themes proved to be the exception, as students found it quite hard to grasp its meaning at this stage of their educational curve. Moreover, field notes revealed that learners experienced considerable difficulty in comprehending the meaning of textual and interpersonal themes. This led me to primarily focus on textual themes via contextualized examples and tables, and to plan to deal with the systematic instruction of interpersonal themes at subsequent cycles.

Lastly, a critical element deriving from the teaching process is that the theoretical proposal of thematic organization was adapted to meet the teaching needs as stated below. The concept of theme was equated with that of topical theme and comprised the following characteristics: (a) person, thing or state that the sentence is about and (b) usually known information, which is commonly placed at the beginning of the sentence. As regards the orienting theme, teaching was limited to recognizing initial adverbials and linkers with their meanings, while it was decided that the term 'orientation' would be dealt with in the next cycle. Comment was taught in the same way as was defined in the theoretical framework.

In the phase of joint construction, students were paired up and were assigned a task: first write paragraphs that contained a series of topical sentences provided by their teacher and, second, comment upon their paragraphs. The quality of written production and the astuteness of student comments regarding their work depended

largely on their level. For instance, on the one hand, higher attaining students made extremely pertinent remarks with regard to elements such as creating topical theme based on a previous comment to smooth the transition from one topical theme to another or the need to provide examples to highlight previously mentioned information (i.e., progression from comment to comment). Such comments are examples of metalinguistic discussion among students. On the other hand, lower attaining students would find it difficult to comment on their classmates' written production in terms of the features mentioned above. Their suggestions would therefore remain superficial (e.g., "word repetition").

Independent construction marked the end of the first cycle. Given that this was the students' first attempt to construct a complete text following the instruction of the thematic structure, students were provided with writing frames to guide the thematic structure of the mode and the genre to be used.

My evaluation of students' written production suggests that in a short period of time higher attaining students' writing performance significantly improved, when compared to their previous texts. This progress, although less important, is also manifest among lower performance students. Only a few low attaining students did not make any progress at all. Improvements were observed in the following areas: relatively smooth transition from one topical theme to another and increased coherence at the paragraph level, as students were less inclined to mix up irrelevant topics. This, however, came at a price: students would repeat words, thus attempting not to deviate from the topic but failed to create the corresponding nominal phrases as topical themes derived from the comment of the preceding sentence. These observations provided me with valuable feedback that would allow to adjust teaching material to meet the educational goals of my students.

Students attending the workshop on written production would have their essays revised in class. Revision would focus mainly on the above-mentioned weaknesses and would aim at remedial activities, whereby students would learn how to turn comment into topical theme. Students would also debate on whether their topical sentences comprised all details of the paragraph, the need to provide examples, etc. I would monitor and facilitate metalinguistic discussion while assisting each student individually.

The following tables provide an overview of the learning objectives, activities, and student written outcomes for all four subsequent cycles:

Table 2. An overview of the second cycle

<i>Learning objectives</i>	<i>Outline of activities</i>	<i>Written outcomes</i>
<ul style="list-style-type: none"> • To consolidate knowledge acquired during the first cycle • To familiarize themselves with the orienting theme and to connect the meaning of orienting themes with each discourse mode • To understand its features: initial sentence position, and lexico-grammatical patterns through which orienting theme is instantiated in texts, etc. • To identify the function of pseudo-cleft and reverse pseudo-cleft constructions in an argumentative piece of writing • To realize that a comment can also be transformed into an orienting theme • To understand why linear development is preferred in argumentative discourse • To perceive the position and function of information focus 	<ul style="list-style-type: none"> • Working with authentic texts from various genres • Observing the orienting theme and discussing its meanings and forms; presenting the concept of orienting theme as orienting expression to avoid confusion in students due to metalanguage • Presenting samples of 'doctored' texts where the orienting theme was not in the appropriate sentence position thus initiating a metalinguistic discussion • Introducing transformation activities of the comment or its focus into topical theme and orienting theme • Co-producing paragraphs following discourse analysis 	<p>Results of the independent construction: higher-attaining students improved considerably. Average-attaining and lower-attaining students also benefited at variable rates</p> <p>Specific observations</p> <p>By the end of this cycle, students:</p> <ol style="list-style-type: none"> 1. Reduced the excessive use of "this [afto]" type. 2. Created more effective paragraphs by turning comment into theme and by maintaining theme stable as originally introduced in topical sentence 3. Made fewer text errors in various places along their writing piece 4. Occasionally failed to make logical connections 5. Rarely resorted in excessive use of linear development

Table 3. An overview of the third cycle

<i>Learning objectives</i>	<i>Outline of activities</i>	<i>Written outcomes</i>
<ul style="list-style-type: none"> • To assimilate knowledge acquired during the previous cycles • To be able to implement theoretical knowledge in their own writing/texts • To realize that both the subject and the object of the sentence can function as topical theme 	<ul style="list-style-type: none"> • Introducing more demanding activities focusing on deconstructing a variety of texts and encouraging frequent co-production of paragraphs • Using thematic structure diagrams (worksheets) with filling the gap activities whereby students would use words and phrases taken from the reference text that function as topical theme, orienting expression, and comment • Encouraging students to use arrows to indicate in a text the types of thematic progression • Encouraging students to come up with their own diagrams to reflect the thematic structure of any given text • Practicing in finding the circumstances under which the object or any of the objects of the sentences work as a topical them and when their function is that of focus 	<p>Results of the independent construction: By the end of this cycle, several lower- and average-attaining students were more effective in implementing their knowledge of thematic structure. As a result, they were able to produce more cohesive and coherent texts</p> <p>Specific Observations: Most students</p> <ol style="list-style-type: none"> 1. Made appropriate use of the orienting themes 2. Were able to reproduce the appropriate types of thematic progression as required by the corresponding genre <p>Fewer students: Digressed from the main topic, especially at the end of the paragraph</p>

Table 4. An overview of the fourth and fifth cycle

<i>Cycle</i>	<i>Learning objectives</i>	<i>Outline of activities</i>	<i>Written outcomes</i>
Fourth	<ul style="list-style-type: none"> To be able to reinstate the main topic of the topical sentence at the end of the paragraph To understand the function of interpersonal themes in discourse and link them to discourse mode and genre To practice (in groups) thematic structure analysis by using a variety of texts 	<ul style="list-style-type: none"> Activities based on paragraphs taken from authentic texts to identify the subtype of the “extended parallel progression” (Lautamatti, 1987) Commenting on the position and meaning of interpersonal themes using a variety of genres 	Student post-tests writing samples include narrative and descriptive discourse modes (For reasons of space, student narrative and descriptive text writing is beyond the scope of the present paper)
Fifth	<ul style="list-style-type: none"> To revise and assimilate previously acquired knowledge 	<ul style="list-style-type: none"> Introducing complex activities with limited teacher intervention 	Student post-tests writing samples focus on argumentative discourse

Two crucial elements of the teaching and learning process should be mentioned with respect to the completion of the fifth cycle. Firstly, the use of metalinguistic terminology was limited to four terms: orienting expression, topical theme, comment, and focus. Secondly, by cross-checking field notes, it became obvious that learners fully grasped the spirit of text analysis and were able to identify and discuss fundamental elements of the thematic structure. This depended to a small or greater extent on students’ level of attainment.

4. RESULTS

Upon completion of this teaching intervention, student final productions (FP) in their first (FD) and revised draft (RD) were compared with their initial productions (IP), i.e., the ones that preceded the intervention phase (first and revised draft). The comparison consisted of a) structure and b) overall writing quality, according to the criteria clearly defined in subsection 3.1 “Methods of data collection”.

Tables 5 and 6 below provide clear evidence which shows that there has been significant improvement in the structure and overall quality of students’ written production.

Table 5. Structure performance in pre-test and post-test argumentative production

	N	Minimum	Maximum	Mean
IP/FD	50	2.50	6.50	5.0300
FP/FD	50	5.50	8.50	7.1400
IP/RD	50	3.50	7.50	5.6100
FP/RD	52	6.50	9.00	7.8365
Valid N (listwise)	50			

Let us first consider student performance with respect to text structure. As regards first drafts (pre- and post- intervention phase), it is observed that students improved by a mean average of 2.11 out of 10 in their written production, which is statistically significant ($t(49) = -16.48, p = 0.00$). This average rose to 2.22 out of 10 in their revised draft essays (pre- and post- intervention phase combined), also statistically significant ($t(49) = -17.04, p = 0.00$). This clearly suggests a considerable improvement in students' ability to manipulate structure.

Another indicator of success is the following: while the first draft average in argumentative essays before the intervention was 5.03 in a scale of 10, the lowest recorded performance after the intervention was 5.5. Similarly, as far as revised drafts are concerned, the average prior to the intervention was situated at 5.61, while as a result of the intervention, the lowest performance rose to 6.5 out of 10, i.e., an increase of 0.89 in a scale of 10.

Table 6. Overall performance in pre-test and post-test argumentative production

	N	Minimum	Maximum	Mean
IP/FD	50	4.50	13.50	10.3700
FP/FD	50	11.00	16.00	13.7800
IP/RD	50	7.00	15.00	11.5500
FP/RD	50	12.50	17.50	15.1200
Valid N (listwise)	50			

Let us now look at the broader picture of student performance as reflected above. One can deduce that improvement in overall written production is greatly influenced by significant enhancement in structure manipulation. More specifically, the average increase in student performance is 3.41 (out of 20) for first draft production and 3.57 for revised production respectively, both statistically significant (FD: $t = -14.19, p = 0.00$, RD: $t = -18.78, p = 0.00$).

The following section provides clarifications with respect to the criteria implemented in assessing student performance both in pre- and post-tests.

5. DISCUSSION

Discussion focuses on a comparative and qualitative analysis of the results of all sets of the argumentative texts described above.

Pre-tests (first and revised drafts/essays) revealed interesting patterns. More specifically, mixing up different topics in a single paragraph was a major issue in essay writing. Students would fail to apply appropriate types of thematic progression in order to develop reasoning. Notable exceptions were found among some high-achieving students. The vast majority of learners would restate previous information later in the text, thus disturbing textual coherence. Contrary to the majority of their classmates, above-average students would attempt to group their ideas regardless of whether they were successful or not. Lastly, problems would also occur at structuring paragraphs. Paragraphs in an essay would not follow the principle of “one-topic-one-paragraph” and wording was inappropriate.

The short excerpt below is a typical sample of an initial production of a student’s first draft; it shows that the student does not maintain a central topical theme throughout the paragraph and does not transform comment into theme. However, both processes constitute the most common patterns of thematic progression in argumentative texts as shown in section 2.

[2] *Η Ρόδος είναι ένα μεγάλο και πανέμορφο νησί με πολλές ωραίες παραλίες αλλά λίγο πράσινο. Έχει πολλά μαγαζιά, το κάστρο και πολύ όμορφα χωριά. Οι άνθρωποι είναι φιλόξενοι, γενναιοδωροι και ο καθένας αγαπάει αυτό που κάνει. Βέβαια, τα βουνά δεν έχουν δέντρα, είναι ξεραμένα από τον πολύ ήλιο. Ταβέρνες γεμίζουν κάθε βράδυ σε κάθε χωριό με θέα την θάλασσα.*

(English translation) *Rhodes is a big and gorgeous island with many beautiful beaches but [with] little vegetation. It has a lot of shops, the castle and very beautiful villages. People are hospitable, generous and everyone loves what they do. Surely, mountains have no trees, they are dried up from too much sun. Tavernas fill up every night in every village with a view to the sea. (Note that the translation maintains the word order of the original in Greek including lexical choices made by the student)*

It was also observed that students would resort to a descriptive mode due to lack of solid arguments. This trend also translated in frequent use of an orienting theme, referring to place instead of a textual theme. In the revised draft phase and after introducing appropriate instruction, several students were able to identify the issue and attempted to formulate arguments. These were mainly high-achieving students.

Moreover, students would rarely or inappropriately use textual themes. As a result, their essays would lack cohesion. Based on the study’s sample, markers such as “episis” (= also) were almost omnipresent, often repeated several times in one single essay. The use of more sophisticated markers would largely depend on the individual level of writing skills. A point in case is that, in the conclusion section of their essay, only 4 out of 50 students were able to use textual themes that introduced concluding remarks (such as ‘therefore, in conclusion, as a result’ etc.) However, not all four students could use them properly. For instance, one of them introduced a conclusion-related textual theme right after the introduction.

Grading and qualitative analysis of pre-test drafts suggest that all students were struggling with composing argumentative texts. Although errors pertaining to narrative and descriptive mode production are beyond the scope of this study, it is important to mention that, when manipulating argumentative texts, students tend

to make more serious mistakes and rather more frequently. Unsuccessful manipulation is mainly due to students' resistance in dealing with argumentative texts. Students would complain and voice their concerns to their instructor by saying "[...] I hate this task; I cannot come up with arguments... I would rather write stories." This difficulty is easily justified as students are more familiar with narration than with argumentation, narration being part of their school as well as their out-of-school experience (Goutsos, 2007; Kellogg, 1994; Martin, 1989).

Contrary to what was observed in the pre-test phase, argumentative production at the post-test phase (first and revised draft/essay) presented with the following characteristics. Firstly, all texts demonstrated a syllogistic progression, whereby students were able to substantiate their claims. This is evident in the frequency of use of causal structures with the corresponding causal conjunctions, as well as the recourse to appropriate types of thematic progression, as required by argumentative texts, namely linear progression and development from comment to comment. As a result, coherence in student written production was optimized.

Linear progression was achieved within each paragraph, either once or several times in 48 out of the 50 first drafts of our corpus and in 49 out of the 50 revised drafts. This type of thematic progression was achieved by forming both topical and orienting themes. The development from comment to comment was found in 45 out of the 50 essays belonging to the category of first drafts. In their revised drafts, all students were able to produce such a type of progression.

Secondly, at the paragraph level, students were able to produce an in-depth analysis of the topic by refraining from using irrelevant and incoherent information. This was achieved thanks to the appropriate use of progression with a stable theme. In my data, the vast majority of students (45 out of 50) remained faithful to a paragraph's main topic by relying on its topical sentence. Of the students who deviated from the above-mentioned norm one persistently failed to follow the main topic of all paragraphs in the text. Of the remaining four learners, this problem was only found in one paragraph. All five learners became sufficiently aware of the issue and managed to address it in their revised versions. However, in doing so, some of them resorted to word and/or expression repetition, thus making their text cumbersome.

On the whole, by employing all three types of thematic progression mentioned above, learners would successfully create and structure paragraphs. A typical example of a cohesive and coherent paragraph is provided in the excerpt below:

[3] Καταρχάς, ο πρώτος λόγος για τον οποίο θέλω να ακολουθήσω την οδοντιατρική είναι η επιθυμία μου να ακολουθήσω τα βήματα του πατέρα μου. Ο πατέρας μου είναι το πρότυπό μου και θέλω πολύ να του μοιάσω. Με έχει πάρει πολλές φορές στο ιατρείο του και μου έχει δείξει πολλά πράγματα που μου κίνησαν το ενδιαφέρον. Για παράδειγμα, μου έχει μάθει πως να εμφανίζω ακτινογραφίες, να κάνω σφράγισμα καθώς και πως να κάνω καθαρισμό, αφαιρώντας τις χρωστικές που έχουν τα δόντια. Όσα μου έχει μάθει με αφήνει να τα εφαρμόζω πάνω του, ενθαρρύνοντάς με συνεχώς.

(English translation) To start with, *the primary reason for which I want to pursue dentistry* is my desire to follow in my father's footsteps. *My father* is my role model and

I want to become just like him. *He* [my father] has taken me to his dental clinic many times and has shown me many things that intrigued me. For instance, *he* has taught me how to develop X-rays, do fillings as well as how to do tooth cleaning by removing stains that teeth have. *All the things he taught me* he lets me apply on him by encouraging me constantly.

In this sample, there is a stable topical theme: “my father” (“ο πατέρας μου”) which is denoted via the use of the pronoun “he”. This theme stems from the focus of the first comment (linear progression): “my father’s footsteps” (“τα βήματα του πατέρα μου”). In the last sentence, there is a second topical theme: “All the things he taught me” (“Όσα μου έχει μάθει”) which is equally created with a linear type of progression, i.e., using the comments of the previous sentence. Lastly, development from comment to comment is also instantiated since subsequent comments: “has taught me how to develop X-rays, do fillings as well as how to do tooth cleaning by removing stains that teeth have” (“μου έχει μάθει πως να εμφανίζω ακτινογραφίες, να κάνω σφράγισμα καθώς και πως να κάνω καθαρισμό, αφαιρώντας τις χρωστικές που έχουν τα δόντια”) clarify the comment of the previous sentence: “has shown me many things that intrigued me” (“μου έχει δείξει πολλά πράγματα που μου κίνησαν το ενδιαφέρον”).

Post-tests were not error-free as far as types of thematic progression are concerned. More specifically, with respect to linear progression, some students would abuse this structure, thus deviating completely from the main topic of the paragraph. However, this phenomenon was of limited occurrence, as only two first drafts post-test texts would present such an issue, while the revised draft phase would be error-free. Another example is that of a text in the first draft version of which the student author would use three paragraphs, each consisting of one sentence. In the revised version, the same student author was able to expand each paragraph by using at least two sentences, although this expansion does not necessarily concur with a sufficient development of the topic.

Additionally, the use of textual themes increased considerably. Students would resort to means of expressing a variety of meanings such as addition, result-consequence, clarification-explicitation, opposition, cause and effect, manner, etc. Strikingly enough, students would use a variety of lexis to express these meanings. Subsequently, their written production increased in cohesiveness. Note that in the first draft category, there has been excessive use of markers coupled with word repetition. Instead, in their revised drafts, students were able to self-correct and make competent use of most markers.

Furthermore, students made extensive use of interpersonal themes both in first and revised draft stages of their writing production. Although interpersonal themes were present during the pre-test production phase, their use was universal, i.e., in all 100 texts that form the sample of this study (first and revised draft combined). Students managed to resort to a great variety of expressions denoting epistemic and deontic modality that were context appropriate.

Comparative analysis of pre- and post-tests argumentative text writing demonstrated a net improvement in student written production as regards structure; this has also affected overall performance in writing. However, my qualitative analysis showed that improvement in overall quality is not as remarkable as in structure.

Note that such enhancement is not related to students' overall performance in other courses of the curriculum. This was not a random occurrence: contrary to the results of the first phase of independent written production, in the third phase, knowledge of thematic structure permeated all categories of students from high-achieving to low-achieving learners. One can conclude that explicit and systematic instruction of text structure can be highly beneficial to all students regardless of their original performance.

This argument is further supported by the fact that learners were able to move from narrative and descriptive discourse to manipulating the argumentative mode as a result of the targeted instruction they received. It should be noted, however, that our approach to teaching argumentative discourse placed greater emphasis on joint construction and independent construction rather than on deconstruction. This approach was dictated by the needs of our learners (students would perform poorly in pre-test argumentative texts) and was informed by the corresponding literature. As Goutsos and Bakakou-Orphanou (2006, p. 137) mention with reference to Greek language education, "[o]ur priority should be in providing students with opportunities to practice genres with which they are the least familiar" [my translation].

By considering all the above, I advocate in favor of a strong causal inter-relationship between teaching procedure and learning outcome (Dede, 2004; Reimann, 2011). More specifically, by focusing on teaching comprehension and production of prototypical features of the thematic structure, as found in the argumentative discourse mode, as well as on possible deviations from those structures, depending on the communicative goal of each text, it was possible to improve student written production in terms of both cohesion and coherence, and overall quality.

To reinforce the finding of a strong causality between teaching procedure and learning outcomes, I conducted a series of interviews, which allowed me to ask targeted questions to four focus groups, composed of students from both classes where the intervention took place.

Table 7. Questions asked to student focus groups

1)	a) Now that this special instruction is over, in your opinion, what are the elements that contribute to a text being of high quality? What are the features that require your attention? b) Were you aware of these features prior to this intervention? Were you able to locate them in a text? Back in September and October, which were the features of a text you would concentrate upon?
2)	Now compare the texts you produced back in October against the texts you wrote in April. Do you think you have made progress? If yes, can you identify the nature of this progress? What did you do differently?
3)	What were the drivers for your progress?

An analysis of student answers provided us with a useful insight of the learners' perception of their own progress. First, there is a clear shift in learner perception and understanding of what constitutes a high-quality text. This perception concerned all students, thus shifting student attention from text observation to their own production. More specifically, all interviewees admitted that, by the end of this intervention, they would pay more attention to the structure and flow of a text. Many learners claimed that they would be more attuned to the actual genre, by using "the appropriate connective words" or by introducing "features belonging to the genre in question, and justifying their arguments as required in an argumentative text", as they suggested in their comments.

Prior to the intervention, students would have a different perception of a text and its quality. They would focus mainly on spelling, vocabulary and the sheer length of text, the content and its ideas, adjectives, and other features at the level of lexis. After the intervention, these features would remain important but now aspects of structure would also come to the fore.

Second, with respect to self-assessment, all students claimed they improved in their written production. To assess their level of understanding of improvement, students were asked to evaluate two samples of own production, one prior to the intervention and the other post-intervention. Their answers suggest that learners were able to discern changes in the quality of their pieces of writing. Among the changes they identified was their ability to stick to a single topic per paragraph. Many students admitted that their pre-intervention production would not conform to the conventions of the argumentative type but was rather descriptive.

Lastly, the answer to the third question was quite revealing. As this question was submitted to both students and observers, all parties involved agreed that in order for learners to further develop these skills it is vital that they keep analyzing texts by using this approach. They also agreed upon the following elements of best practice: (a) frequent independent and joint production followed by text revision; (b) engaging in metalinguistic discussions; (c) the added value of a workshop on written production; and (d) the pivotal role of the teacher.

As stated in the Introduction, previous relevant studies have applied a quite different theoretical proposal, i.e., topical structure analysis. However, my findings

are consistent with theirs in terms of coherence, overall writing quality and adoption of positive attitude towards this method of instruction. Additionally, in Greek, prior research conducted by Varela (2010) and Egglezou (2011) on the systematic teaching of discourse markers and the structure of argumentative texts respectively have also demonstrated that placing emphasis on the teaching of textual features helps students develop cohesion and coherence in their writing discourse. Furthermore, my findings corroborate Myhill's (2016) and Myhill et al.'s (2016) research on the significance of orchestrating metalinguistic discussion about writing.

6. CONCLUSIONS

To conclude, I would like to suggest that the research context described in this study provides sufficient evidence for the claim that this theoretical proposal for dealing with the thematic structure of texts can be effectively implemented in the classroom. At the same time, it must be pointed out that the text-centered teaching model derived from my proposal is rooted in a theoretical rationale that treats grammar as functionally oriented and as “[...] a resource for making meaning” (Halliday & Matthiessen, 2014, p. 49). Students were thus able to speculate on the linguistic choices available to them and to make conscious language decisions to craft texts that would meet their rhetorical intentions as writers (Myhill, 2018; Myhill et al., 2011). Equally important is that students gradually eliminated irrelevant, incohesive and incoherent pieces of information and topics in their paragraph progression by developing a process for reasoning. Based on the above, I suggest that the model be further used in developing writing skills in secondary education students. This presupposes that a) teachers be theoretically and practically trained to acquire a text-centered view of teaching by opting for a holistic text approach to language and b) new textbooks of Greek language teaching be written incorporating this view.

Finally, it is important to acknowledge the following limitations of the research methodology. Teaching thematic structure was an individual endeavor of a teacher who also acted as a researcher since, given the nature of this research, it was important that both roles were embodied by the same person. So, I devised the pedagogical design and had to readapt it as necessary by implementing my own theoretical framework on my students. However, the only way to validate this model and further develop it in the future is to produce evidence of subsequent teaching interventions in this framework by other teachers, following systematic training.

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APPENDIX A

Writing Task for Pre-test

Submissions are required for the column of your school newspaper dedicated to “My favorite destinations”. Write an article to convince your fellow classmates to visit your favorite place (approximately 250 words).

Writing Task for Post-test

Submissions are required for the column of your school newspaper entitled “My point of view”. Write an opinion essay on the profession you are interested in. Explain the reasons for choosing this profession and for believing that this is the right choice for you (approximately 250 words).