Paper Dictionaries vs. Electronic Dictionaries in German Language Teaching: an Investigation in Greek Primary and Secondary Education

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Abstract

The recent advancements in the field of lexicography have been remarkable, with electronic lexicography and its product, electronic dictionaries (EDs), gaining increased attention from lexicographers, researchers and dictionary users. In an attempt to obtain first-hand data on dictionary use in the Greek educational context, this paper explores dictionary use in the framework of German language teaching in primary and secondary schools, with a focus on the comparison of paper dictionaries (PDs) to EDs. 236 German language teachers participated in the questionnaire study. The main issues presented in this paper concern their perceptions in relation to: a) the frequency of use of PDs and EDs during lesson preparation and lesson conduct, and degree of its effectiveness, b) the level of difficulty in the use of each dictionary type, c) the various forms of EDs used during German language teaching, d) the advantages and disadvantages of both types of dictionaries used, e) the necessity of PD and ED use in German language teaching at various levels of the Greek educational system, and f) the level of satisfaction with their own competence of using PDs and EDs during their lesson. Frequency analysis of all these variables and a cross-tabulation between the independent and dependent variables were performed with the use of the Statistical Package for the Social Sciences 21.0 (SPSS 21.0). The teachers' answers allow for some interesting conclusions, such as their preference of the ED in lesson preparation and lesson conduct, despite the lower level of satisfaction with their competence of using it compared to the PD.

Keywords: German language teaching, dictionary use, paper dictionaries, electronic dictionaries

1. Introduction

This paper focuses on the use of dictionary in the teaching of German as a Foreign Language (GFL) in primary and secondary schools in Greece. The findings of a questionnaire study on 236 GFL teachers are presented, with a focus on the comparison of PDs to EDs.

Dictionary research and in particular research on dictionary use as one of its fields [16, p. 6 ff.] has grown vastly in the past two or three decades [11]. Thus, important steps have been made in the direction of enlightening various aspects of the once called 'familiar stranger' [15, pp. 59, 62], the dictionary user. Nevertheless, despite the growing number of empirical studies on users [14; 13, p. 124; 11], only a few of them focus on teachers as users and their attitude towards the dictionary and its use [e.g. 1]. Hence, there are limited empirical data available concerning the teachers' attitude and practices in relation to dictionary use in their educational praxis. In addition, though digital dictionaries have become very popular in recent years, research into their use has been rather limited [9], with few exceptions cited in the literature [e.g. 6; 10; 7]. Such research on ED use has shown, for example, that teachers of English in universities in Thailand did not use EDs, were uninformed about EDs and many of their technological features [1], whereas Chinese ESL students regularly used Pocket Electronic Dictionaries (PEDs) during reading comprehension and written production as early as twenty years ago [12].

Research into dictionary use is still at an infant stage in the Greek educational research context. In fact, empirical dictionary user research has begun only in the last decade [2]. Since then, there have been some empirical studies that shed light on the topic of dictionary use [see 3 with references]. However, we were not able to locate any Greek research literature on whether foreign language teachers, and GFL teachers in particular, use the dictionary, and especially the ED, in their teaching within the Greek educational context. This study attempts to fill this gap to some extent.

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2. Method

In order to obtain first-hand data on dictionary use in the Greek educational context, we conducted a large-scale questionnaire survey to investigate dictionary use from the point of view of GFL teachers in Greek schools of primary and secondary education, i.e. their perceptions. The questionnaire, designed by us, contained a number of research questions, however the main issues presented in this paper are: a) the frequency of use of PDs and EDs during lesson preparation and lesson conduct, and degree of its effectiveness, b) the level of difficulty in the use of each dictionary type, c) the various forms of EDs used during GFL teaching, d) the advantages and disadvantages of both types of dictionaries used, e) the necessity of PD and ED use in GFL teaching at various levels of the Greek educational system, and f) the level of satisfaction with their own competence of using PDs and EDs during their lesson.

The data of the survey were collected between September-December 2016. Frequency analysis of all these variables and a cross-tabulation between the independent and dependent variables were performed with the use of the Statistical Package for the Social Sciences (SPSS) 21.0.

The questionnaire included 40 questions, eight (8) of which were about the general personal details of the subjects. In the remaining 32 questions, the subjects were asked to declare their opinions, behaviours and practices as far as the dictionary and its use in the teaching of GFL is concerned. The vast majority (37) of the questions were closed questions (five-level Likert scale). The questionnaire's overall reliability proved to be at a very good level: the alpha coefficient of reliability was 0.97 (very highly reliable), and the split-half coefficient was 0.70 (reliable). In the present paper we present the answers in the research questions that were specifically related to EDs, for which the alpha coefficient was 0.90 and the split-half coefficient 0.85 (both highly reliable) [5, p. 506].

In an attempt to achieve as high a level of representativeness as possible in terms of the teachers' profile and of the schools where they taught, the questionnaire was addressed to teachers of both primary and secondary education, graduates of both the Aristotle University of Thessaloniki (A.U.TH.) and of the National and Kapodistrian University of Athens (U.o.A.), experienced and inexperienced, further qualified and not, working in public and in private schools. In particular, the total number of the teachers involved in the research was 236, which corresponded to about 18% of the total population under investigation (more information about the adopted sampling strategy is given in our forthcoming publication) [4].

The picture emerging from the personal details' analysis of the subjects showed that 87.4% of the participants were female and 12.6% male. 63.9% had graduated from A.U.TH., 24.3% from U.o.A., and 11.7% from universities outside Greece. Their mean years of experience were 14.8. Teachers with experience of ≤10 years accounted for 30.0%, those with 11-16 years of experience for 33.5% and those with ≥17 years of experience 36.6%, respectively. 59.7% of the teachers spoke two foreign languages (in all cases the second foreign language was English), 23.3% spoke three, 8.1% spoke four, and 3.0% spoke five foreign languages. 46.8% of the sample had increased qualifications (8.5% held a second degree, 40.4% held a Master, and 1.3% held a PhD). 30.3% of the subjects worked in primary education, 58.3 in secondary education, and 11.5% worked in schools both of primary and secondary education. 84.7% of the teachers worked in public schools, and 15.3% in private schools.

3. Results

As shown in Table 1 (the number stated is the mean in a scale from 1 to 5, and the number in the parenthesis is the standard deviation), the ED seemed to be used more frequently than the PD in lesson preparation and conduct, and to be valued as more effective in both cases – in contrast to the findings of an earlier study by Boonmoh (2010), which revealed that most English lecturers preferred to use dictionaries in book form when writing, reading and lesson planning. Nevertheless, according to their statements, the participants appeared to have less difficulty in the use of PD and were more satisfied with their own competence of using PDs during their lesson.

Table 1. Frequency of use of PDs and EDs during lesson preparation and lesson conduct, and degree of its effectiveness, Level of difficulty in the use of each dictionary type, Level of satisfaction with the subjects' own competence of using PDs and EDs during their lesson

			PDs	EDs
A.	Frequency of use during	lesson preparation	2.85 (0.97)	3.08 (1.20)
		lesson conduct	2.29 (1.07)	2.37 (1.22)
	Effectiveness in	lesson preparation	3.13 (1.03)	3.20 (1.13)
		lesson conduct	2.56 (1.09)	2.74 (1.22)

| B. | Level of difficulty in the use of PDs and EDs | 1.59 (0.81) | 1.74 (0.92) |
| C. | Level of satisfaction with their own competence of using PDs and EDs during their lesson | 3.60 (1.05) | 3.51 (1.13) |

As for the advantages of both types of dictionaries used, it appeared that PDs main pros were reliability, accuracy and the great number of entries, whereas the ED was valued for its minimal volume and weight, its speed, ease of use, low financial cost, functionality and because it can be easily updated. Financial cost, dysfunctionality and difficulties in pronunciation learning were PDs main disadvantages, whereas the necessity to have Internet access, the unreliable and insufficient information as well as the insufficient instructions for their use were stated as EDs main disadvantages (see Table 2).

Table 2. Advantages and disadvantages of both types of dictionaries used

Advantages	PD	Reliability	4.20 (0.76)
		Accuracy	4.00 (0.86)
		Great number of entries	3,75 (0.98)
	ED	Absence of volume and weight	4.48 (0.79)
		Speed	4.30 (0.80)
		Ease of use	4.11 (0.90)
		Low financial cost	4.09 (0.99)
		Functionality	4.08 (0.88)
		Can be easily updated	4.00 (0.90)
Disadvantages	PD	Financial cost	3.33 (1.01)
		Dysfunctionality	2.82 (1.21)
		Difficulties in pronunciation learning	2.74 (1.13)
	ED	Necessity to have Internet access	3.46 (1.33)
		Unreliable information	2.51 (1.01)
		Insufficient information	2.44 (1.05)
		Insufficient instructions for use	2.42 (1.11)

As for the type of ED teachers used more frequently during their lesson, it appeared that online dictionaries were the most preferred option (mean 2.49, SD 1.27), followed by applications for mobile phones or tablets (mean 1.76, SD 1.13), dictionaries compiled in compact discs (mean 1.55, SD 0.92), and PEDs (mean 1.24, SD 0.69). Boonmoh's research (2010) revealed the CD form as most preferable, followed by the online dictionary and the PED. The technological advances in the field of internet technologies (IT) and the widespread use of smartphones and tablets could perhaps explain the difference between our findings and those reported by Boonmoh.

Regarding the perceived necessity of PD and ED use in GFL teaching at various levels of the Greek educational system, the findings of the researched showed that ED use is considered more necessary than PD use, and that dictionary use in general is regarded as more necessary the higher the educational level is (see Table 3).

Table 3. Perceived necessity of PD and ED use in GFL teaching at various levels of the Greek educational system

	PD	ED
Senior high school	3.80 (0.90)	3.84 (0.98)
Junior high school	3.24 (1.00)	3.38 (1.03)
Elementary school	2.46 (1.17)	2.57 (1.18)

Below are presented some of the statistically important relationships revealed by the independent samples t-test and the one-way analysis of variance (ANOVA):
- Female participants declared to a greater extent that they considered ED use as necessary in GFL teaching in senior high school (t=-2,485, p=0,014). Male teachers used ED in CD form in lesson conduct more often than women did (t=2,226, p=0,027);
- Graduates from universities outside Greece casted a more critical eye at the ED. In fact they stated, compared to those of A.U.TH. and of the U.o.A., to a larger extent disadvantages, namely the ED's *unreliable information* (F=4,165, p=0,017), and *incomplete instructions for use* (F=5,289, p=0,006);

- Teachers with further studies declared to a greater extent that *reliability* (t=2,022, p=0,045) and the *possibility to go through neighbour entries* (t=2,220, p=0,027) were advantages of the PD. On the other hand, those with no further studies stated to a greater extent that *insufficient information* is a disadvantage of the PD (t=-2,223, p=0,027). As regards the ED, futher qualified teachers stated various characteristics as its advantages to a greater extent than those who had no further studies: *functionality* (t=3,039, p=0,003), *speed* (t=3,316, p=0,001), *simplicity* (t=2,000, p=0,047), *ease of use* (t=2,083, p=0,038), *possibility of use at any time* (t=2,591, p=0,010), *ease of learning word pronunciation* (t=2,546, p=0,012), *low financial cost* (t=3,446, p=0,001) and *minimal volume and weight* (t=3,519, p=0,001). On the other hand, teachers who weren't further qualified chose to a greater extent the *difficulty in use* as a disadvantage of the ED (t=-2,501, p=0,013);
- Teachers who worked in private schools, compared to the teachers of public schools, stated to a greater extent that they used the online dictionary (t=-2,304, p=0,022) and the ED in form of application for smartphones and tablets (t=-3,023, p=0,004) during lesson conduct.

4. Discussion and conclusions

The findings of our research allow for some interesting conclusions to be made. As expected, the subjects appeared quite confident about their dictionary-using competence, even though they had not been trained to develop their dictionary-skills (as is derived from their answers in other questions of the research tool). Nevertheless, as professional GFL teachers, the subjects were expected to have at least some knowledge about and an increased interest in dictionaries, having been themselves dictionary users for years. The use of the ED seems to be causing them slightly more difficulties than the use of the PD.

Even though research literature and the findings of earlier studies indicated that teachers were insufficiently informed about EDs [1, p. 69], the findings of the present research indicate the GFL teachers' preference towards the ED in Greece. However, further in-depth study is required in order to specify this preference. The relatively low percentage of dictionary use, both of PD and ED, in lesson conduct calls for infrastructure improvement and, more importantly, dictionary-using skills development. Thus, both teachers and foreign language learners need to become familiar with dictionaries and explicit teaching of dictionary-using skills is required [8; 1, p. 69]. This goes especially for the ED, since its use requires more skills than those needed for the effective use of the traditional dictionary. As the ED, whose characteristics proved to be highly valued by the research subjects, is here to stay and will most likely further be developed in view of the technological advancements as well as the advancements in lexicography, both foreign language learners and teachers should become more familiar with EDs and be equipped with the skills to use them effectively. Hence, the need arises for university courses which focus on the training of prospective foreign language teachers both as dictionary users and so that they increase dictionary awareness among language learners in their future career.

Acknowledgements

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