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Research Papers in Language Teaching and Learning

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EDITORIAL

Trailblazing another productive yet precarious year in the post-COVID 19 era, the 13th issue of the *Research Papers in Language Teaching and Learning* probes into a multitude of areas of language pedagogy across all levels of the educational strata (predominantly secondary and higher education settings). Adopting methodologies grounded in both research paradigms (qualitative and quantitative), the authors delve into pressing issues and innovative practices regarding the four skills, vocabulary development, assessment as well as teacher training during the COVID-19 pandemic from an international and cross-gender perspective. This issue also features a book review of a brand new book authored by two internationally acclaimed scholars James Milton and Oliver Hopwood, *Vocabulary in the Foreign Language Curriculum: Principles for Effective Instruction*.

The unprecedented online teaching situation imposed by the COVID-19 pandemic is investigated by the first two papers. **Theodora Tseligka** focuses her study on Greek higher education. This paper underlines the consequences of a challenging teaching situation in order to provide support with regard to planning and preparations, should they be needed in future similar situations. The findings present high attendance rates in higher level online teaching courses, but long screen exposure and low levels of interaction in the digital environment. Moreover, difficulties related to digital literacy are also discussed. Additionally, issues of no further speaking skills development are raised. Nevertheless, the author states that the teaching material used was positively evaluated and university students reported gains related to digital literacy skills.

Dina Tsagari, Jenny Liontou and **Christina-Nicole Giannikas** discuss the rapid transition from traditional face to face instruction to online teaching in the midst of the COVID-19 pandemic, which came as a shock for many educators. Their study investigates the Greek EFL teachers' behaviours, in terms of their attitudes, confidence and satisfaction to online teaching. The authors exemplify the psychological and instructional challenges EFL teachers were faced with in the digital teaching environment. Moreover, particular emphasis is placed on the need for further training and the lack of digital literacy skills of teachers participating in this study. These findings shed light on the teaching situation in Greece in relation to online teaching, offering useful information to policy makers and teacher educators.

The next two papers are related to assessment issues. **Skevi Vassiliou, Salomi Papadima-Sophocleous** and **Christina Nicole Giannikas**, via a qualitative descriptive research approach, discuss the various technologies used in formative assessment regarding second language,

through systematically reviewing articles, books and chapters published within the last 20 years. The authors sought to underline the effect of using technologies for assessment in the context of investigation, while commenting on the related trends and issues involved, and therefore highlighting the importance of such methodologies adopted. Their findings reveal the significance of using digital tools as a means of formative assessment for SLA, as well as the different technologies employed in various aspects of language, with respect to the amount of input and the extension provided.

Stavroula Tsiplakou and **Dina Tsagari** examine the low scores exhibited in the Greek language test administered in annual national university entrance exams. This research particularly highlights the paramount necessity to adapt the method of assessment and evaluation within this educational context. The researchers have adopted a mixed-methods approach and they conclude that the assessment criteria, as posed by the Ministry of Education are dubious and rather generic, despite the "teaching to test" method of teaching adopted in most cases. They moreover comment on the restricted set of linguistic skills developed while preparing for the particular examination.

Moving on to other teaching and learning issues, **Theoklia Rizouli** and **Zoe Kantaridou** sought to investigate gender differences in the academic reading strategies employed in the Greek higher education context. The results indicate that problem-solving and support strategies are those which are widely and mainly used by female university students. Moreover, they add that in terms of frequency, there is no particular difference between the two genders. However, significant differences appear to exist in eight reading strategy items, with female students scoring higher than males in six of those items. Their conclusions provide an impetus for university professors to consider reading strategy instruction along with the academic curriculum, by making higher level students become aware of the strategies they employ while being informed on the ones that could be further developed.

Seliami and **Stathopoulou** have adopted a mixed methods approach to examine if and to what extent primary school aged deaf students and students with hearing hardship can learn English. The researchers attempt to shed light to the strategies teachers ought to develop and incorporate in their teaching, offering very useful insights to prospective and in service teachers and thus filling the gap in the available literature. As the authors conclude, such students can indeed learn basic English provided that they are taught individually in small classrooms. They also suggest that systematic teacher training is important for better results.

Tlatso Nkhobo and **Chaka Chaka** present a mixed-methods approach corpora study concerning the argumentative written essays produced by undergraduate university students. These essays compose a corpus which has been analysed in terms of four particular linguistic categories, such as the syntactic pattern density, the connectives, the text easability, and the readability of these students' essays. This fills in the research gap in employing Coh-Metrix to analyse university level student essays in South Africa utilising corpus analysis software applications. The paper concludes that there is strong evidence of noun phrase density and verb phrase density in higher level education essays of the participants as well as lower usage incidence of adversative and contrastive, expanded temporal, and temporal connectives. Moreover, a low narrativity incidence is observed, and the readability scores examined by Flesch-Kincaid Grade Level and Coh-Metrix L2 Readability appear to be low.

Vocabulary is in the heart of the last 2 papers and the book review. **Thomaï Alexiou** and **Alexandros Vagenas** have investigated 411 Greek primary school students in terms of their L1 and L2 vocabulary knowledge. Employing two receptive vocabulary knowledge tests, the authors conclude that Greek students' vocabulary knowledge is similar to L1 English and Arabic learners with no particular variation between learners' lexicon at the same age. As for their L2 vocabulary knowledge, the authors underline that Greek primary students acquire English fast and successfully in the six years of education with no particular variation. They attribute the results in L2 both to school tuition and incidental learning, taking place prior to formal schooling due to exposure to the English language in various forms of entertainment. However, the authors pinpoint that L1 vocabulary knowledge does not clearly appear to influence the L2 results.

The effectiveness of using poems and songs for vocabulary development in foreign language teaching is investigated by **Aggeliki Papantoni** and **Alexandra Anastasiadou**. This study concerns 15- and 16-year-old Greek learners in state senior high school. The researchers used a combination of tools, such as vocabulary knowledge tests and questionnaires, as well as an observation checklist to ensure the collection of accurate quantitative and qualitative data representation. They conclude that utilising authentic material songs and poems in the learning process has a positive effect on the vocabulary development and improvement of the particular learners. Their remarks on the entertaining yet pedagogical nature of songs and poems used in the classroom enhance the positive implications for teaching practices.

This issue also features a book review by **Thomaï Alexiou** of James Milton and Oliver Hopwood's work, *Vocabulary in the Foreign Language Curriculum: Principles for Effective Instruction.* The reviewer argues that this is the first book-length study written on how vocabulary should be weaved through a successful curriculum. She grounds her assertion in the fact that learning vocabulary is essential for communication, making it a component of the language that must assume centre stage in any foreign language program. She also argues that even though there is a deluge of scholarly research on vocabulary acquisition and teaching, this research rarely feeds into the practice of instructors, material creators and curriculum designers effectively; rendering this book indispensable for all stakeholders involved.

The aftermath of the COVID-19 pandemic has definitely left its own mark on the world on a multitude of levels. While its imprints are deeply entrenched in the living memory of people of all walks of life (educators included), there are still those voices from the academic community who relentlessly strove to remain afloat against all "ailing" odds, probing into more groundbreaking research projects. The current issue of Research Papers in Language Teaching and Learning features such work, which will hopefully prove equally challenging and innovative.

Thomaï Alexiou
Editor-in-Chief

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Online foreign language learning in Higher Education during the COVID-era: A survey of Greek students' perspectives

Theodora Tseligka

During the unprecedented COVID-19 pandemic, serious disruptions, including campus closures and a massive transfer to online 'emergency remote teaching' (ERT), have brought unparalleled repercussions to all tertiary academic fields, including foreign language (FL) teaching and learning. This paper presents the results of a survey conducted among Greek HE students. In total, 367 responses were collected from students who had attended university FL modules during the 2020 spring lockdown. Results revealed high attendance rates, which seem to relate to the novelty of the online learning experience and the participants' positive feelings towards transitioning to the online mode, while increased screen exposure and lack of interactive engagement appeared as the primary impediments. Issues of equity of access due to technological deficiencies were also raised. Ambivalent evaluations were recorded with regards to online FL learning courses, with students reporting the least progress in their speaking skills development. However, the teaching material used was overall positively evaluated, along with recorded gains in students' digital literacy. It is hoped that this study could shed light on the consequences of what has been the most challenging academic transition in recent decades and prepare for future contingency plans and emerging opportunities in FL teaching in HE.

Key words: Emergency-remote teaching, (online) foreign language teaching and learning, Covid-19, students, Greece.

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1. Introduction

The advent of Information and Communication Technology tools in Higher Education (HE) has arguably revolutionised foreign language (FL) teaching methodologies and learning practices in traditional classrooms. Tailored to the 21st century increased demands for international academic collaboration along with multidisciplinary digital literacy, many FL university professionals have fostered the development of language skills incorporating various new technologies from the Web 3.0 and 4.0 environment, including multimedia and multilingual online tools, synchronous and asynchronous communication technologies, online corpora, wikis, internet dictionaries, infographics,

learning management systems, social media and virtual reality games (Bárcena, et al., 2014; Dashtestani & Stojković, 2015; Li, 2017; Macia, et al., 2006; Muñoz-Luna & Taillefer, 2018; Németh & Tseligka, 2018; Kalogerou, 2018).

However, two years ago, it would have been hard to foresee the pivotal role technology would play at such a massive scale in HE. With the advent of the COVID-19 crisis in early 2020, nearly 90% of European Universities were forced to suspend face-to-face teaching opting for distance education with the use of synchronous and asynchronous platforms (Gaebel, 2020). The transformation was broadscale and surprisingly rapid, in an effort to minimise the implications effected upon student learning due to mass student displacements, access inequity/inequality issues and health threats for staff and students (World Bank Group, 2020).

In response to the above, HE language educators were also compelled to abruptly transfer their courses from traditional in-person delivery to a distance online format, or, as has become known, "emergency remote teaching" (ERT) (Hodges, et al., 2020). In this fully digital venue, language teachers had to deliver lessons, interact with and assess students remotely in virtual classrooms (Zhang, 2020), often experiencing increased levels of stress and negative emotions of anger, sadness and loneliness (MacIntyre et al., 2020). Yet, despite the transient nature of ERT, as most universities have returned to a fully face-to-face or a hybrid blended learning mode, it is imperative to record and analyse how it was implemented across different educational systems in order to fully comprehend its repercussions, prepare for future contingency plans and, most importantly, explore emerging opportunities for an optimum integration of technology in HE language teaching and learning.

The present research study focuses on emergency remote teaching of FL courses in Greek universities, one of the few studies to be conducted in Greek tertiary settings, gauging students' perceptions on the implementation of ERT in FL learning in higher education.

2. Theoretical background

2.1. The impact of Covid-19 pandemic on FL teaching and learning in university settings

As already noted, the surge of the pandemic led almost all tertiary education institutions around the world to switch rapidly to online education. Courses, including FL ones, originally designed to be delivered onsite had to be transferred to online platforms embedding computer-mediated resources within a minimum time of preparation. Real-time video conferencing with Microsoft Teams, Google Meet and Zoom applications, extensive use of Moodle or similar CMS platforms, adapted teaching materials with audio/video resources, embedded digital scaffolding and online assessments were among the primary tools employed in FL during the COVID-19 online teaching period (Chen, 2021; Jansem, 2021; Kalogerou, 2021; Maican & Cocoradă, 2021; Ritonga et al., 2021).

It needs to be noted that this type of emergency remote teaching (ERT) in crisis-prompted settings differs significantly from typical distance online FL classes. The former, as Hodges et al. (2020) highlight, has as its main aim "not to re-create a robust educational ecosystem but rather to provide temporary access to instruction and instructional support in a manner that is quick to set up and is reliably available during an emergency or crisis". On the contrary, the latter is well-planned and carefully designed to be delivered in an online mode from the very beginning (ibid). Thus, planned online distance FL learning is carried out in multimodal environments with abundant technological tools and specific affordances that call for new pedagogies and modes of learning, new patterns of communication and novel types of assessment (White, 2014). With specific reference to distance and blended learning in languages for specific purposes, Arnó-Macià (2012) reviews a wide range of IT-implemented projects, pointing to their ubiquitous implementation as a result of their flexibility, low cost, ease of access, high student achievement and customised learning material, tailor-made to the

students' specific language learning needs. Most notably, the effectiveness of such projects depends upon an underlying sound pedagogical rationale, technological robustness and a thorough training of teachers and learners (ibid.). Arguably, the unforeseen and rapid emergence of the COVID-19 pandemic could hardly allow enough time to proceed with such a judicious and careful preparation of an online distance FL learning environment, as the one described in previous studies. In that sense, ERT efforts in educational settings during the pandemic should be evaluated with those challenges in mind, i.e., the unique and urgent context and the risk of jeopardising an entire semester at minimum.

Studies so far have unveiled varied results regarding the impact of ERT on university FL teaching and learning since the beginning of the pandemic. On the one hand, students have reported positive feelings towards online language learning, even amidst these adverse circumstances, mainly due to the convenience, high practicality and easiness of online tools, more so in cases when there were no serious technological disruptions (Jansem, 2021). Remarkably, some students favoured the interactive online platforms because they resembled to some extent the social media platforms they are so familiar with when communicating online with their peers (e.g. video calling and exchanging text messages) (ibid.). Furthermore, recent research reveals that the affordability of online resources was quite positively accepted by Chinese university language learners, expanding the breadth and depth of their learning experiences and providing a less stressful environment for peer interaction, especially when messages could be exchanged anonymously thus overcoming public speaking anxiety (Huang et al., 2020). Similar findings have been noted by Kamal, et al. (2021, p. 7317) whose study indicated that "the absence of harsh teacher's control and the fact that students have fewer opportunities to compare their academic results with classmates' learning outcomes…may contribute to the improvement of student's self-esteem" in distance FL learning and teaching. Despite the recorded decline in the efficiency of distance learning of English during the pandemic, the research confirmed its overall higher value compared to face-to-face learning (ibid.).

Conversely, it has been demonstrated that students displayed quite low self-management skills (Huang, et al., 2020), particularly at the early stages of ERT, when they frequently resorted to their instructors for problem-solving and guidance (Chen, 2021). The lack of social contact, spontaneous in-class discussions, collaboration and lively participation, particularly with peers, emerged also as a major flaw that undermined the language learning quality (Huang et al., 2020; Jansem, 2021; Kalogerou, 2021; Ritonga et al., 2021), especially when students kept their cameras switched off, impeding the speed of online interactions (Klimova, 2021). Many students reported decreased concentration as a serious disadvantage of ERT, further compromised by the lack of printed materials that did not allow for note-taking and active learning engagement (ibid.). Online learning productivity was further depleted due to some students' poor technological skills and their financial difficulties to afford internet network fees (Jansem, 2021). Technical issues have also been noted in a study with university learners of Arabic, where the low voice and sound quality as well as the weak or intermittent internet connection diminished significantly the learning process (Ritonga et al., 2021). The participants further identified the absence of feedback and adequate explanation on behalf of the instructors as an important obstacle while the majority assessed negatively the learning outcomes in all four language skills, i.e. speaking, listening, reading and writing (ibid.). Congruently, English language learners and teachers in Kalogerou's (2021) research found the online courses during the pandemic less exciting, less interesting and less engaging, compared to onsite classes.

2.1. FL teaching and learning in the Greek Higher Education (HE) Area

The Greek HE area presents an interesting case to be studied, typified by rather conflicting educational practices, including the FL learning field. Greek LsAP instructors are highly qualified, since a doctorate has become a formal requirement for holding a language teaching position in Greek HE (Government Gazette 195/issue A/6-9-2011), and often embrace innovative instructional methodologies in their

courses (Eumeridou, 2019; Nikolarea, 2019; Tseligka, 2019; Tzoannopoulou, 2016); yet, they could be easily disheartened due to lack of sufficient university support, training, professional development prospects and an absence of a holistic foreign language policy in HE (Tseligka, 2016).

With respect to the use of technology in FL teaching, a study conducted a decade ago by Dogoriti and Pange (2012) indicated that a significant number (39%) of Greek ESP instructors at the time were quite hesitant to integrate ICT tools in their courses, favouring primarily the use of conventional coursebooks or less-interactive web-based language-learning resources (i.e. employing primarily tools such as word processors, power-point presentations, and emails to contact students). In view of the positive attitudes that the majority of the respondents noted towards the future integration of technology in enhancing ESP teaching in HE, the study reported that more teacher-friendly tools would appeal to the instructors (i.e. an online platform), provided that such a solution would be easy-to-use, less time-consuming and allow for comprehensible input to be presented in a practical manner. Unsurprisingly, a more recent study (Constantinou & Papadema-Sophocleous, 2020) recorded the significant advancements in the field, with the majority of ESP practitioners (≈ 80%) in Greek and Cypriot HE having now embraced the use of technology in their courses. However, it is underlined that ESP instructors still resort to the affordances of basic computer tools for their ESP course delivery, including word processor, internet browsers, projectors, e-learning platforms and emails, with "tools like social media, blogs, websites, games, wikis, chat tools or smartphones…not listed as popular [ones]" (ibid. 23). Similarly, there seems to be only a handful of studies analysing the implementation of modern web tools and online learning methodologies in LsAP in Greek HE, attesting most probably to the scant integration of advanced technological applications in many Greek academic settings (Arvanitis, 2019, 2020; Krystalli & Arvanitis, 2018; Mamakou & Grigoriadou, 2010; Perifanou & Mikros, 2009; Tangas, 2006, Tseligka, 2019).

Furthermore, despite their increased English language proficiency, Greek students are often reported to lack academic study skills and opt to be performance-oriented (i.e. achieving a good mark) rather than to fulfil specific learning goals (Katsara, 2018). A more recent study has also foregrounded the increased multilingual profile of Greek university students, with more than half of them speaking two FLs, strongly motivated to invest time and effort in FL learning; yet, financial difficulties appear to cause significant hindrances in attaining this goal (Hovhannisyan & Sougari, 2018). As regards LsAP courses at a university level, the majority of these modules are compulsory, aiming to cover the needs of all students. However, the appalling shortages in staff do not allow splitting classes into smaller groups, thus resulting in large-size audiences of more than 50-100 students per class, seriously undermining the desired learning outcomes (Tseligka, 2016).

3. The study

3.1. Research questions

In view of the above context, the present study was designed to address mainly the following research questions:

1) Did Greek students attend FL courses during the COVID-19 pandemic? Which factors are related to their attendance?
2) How did students evaluate online FL learning during the COVID-19 pandemic?

3.2. Methodology: the questionnaire and data analysis

An online questionnaire was structured with the use of Google forms and was administered to the seven (7) largest Greek universities[1] with the assistance of fellow LsAP instructors affiliated with the corresponding institutions, who forwarded the survey to their students via registered email lists and online platforms (e.g. Moodle). The survey was conducted from May 15th 2020 until June 8th 2020, when lectures usually end in most Greek university departments.

The questionnaire was written in English as it was simultaneously distributed to many other European universities. For the purposes of this paper, responses only from students of the Greek institutions are considered. The questionnaire was divided into three main sections (see Appendix). The first one included questions about the participants' basic demographic data (gender, age, nationality) as well as their field and year of study. The second section focused primarily on the period prior to the transition to ERT, asking students whether they were obliged to relocate because of the pandemic and the emotions they experienced in view of this unparalleled emergency situation. The questionnaire also sought information about the students' pre-pandemic online-learning experience. The last part comprised several questions (primarily multiple-choice type) recording participants' attendance rate in online courses, their evaluative perspectives, possible hindrances and difficulties of both synchronous and asynchronous platforms, as well as potential benefits out of the whole process. An open-ended question in the end left space for garnering students' overall comments and views regarding the impact of COVID-19 pandemic on their FL learning experience. The questionnaire was originally pretested with a small group of Greek students in one of the researcher's courses to check for response latency and question clarity. It was anonymous, no personal data of respondents were disclosed, and the respondents were assured of the confidentiality of their responses. Collected data were analysed through SPSS.

4. Findings and discussion

4.1. Demographics and profile of participants

The self-selected sample of participants consisted of 367 students (N = 367), who had attended at least one online FL course (either for general or specific academic purposes) in any of the above-mentioned Greek universities during the spring semester 2019-20. Almost 3/4 (68.4%) of our respondents were female students, which is not surprising considering that females have been recorded to hold a more positive attitude towards foreign language learning (Cochran et al., 2010). More than half (61%) were of a younger age (18-20 years old), followed by 25% who were 21-23 years old and 14% who were older than 24. The dominant nationality was Greek (N= 334, 91%). Responses were somehow divided between 1st year students (42.5%) and those attending the 2nd ≥ year of study (53.7%). This is because most LAP/LSP courses are compulsory and integrated in the first years of studies in Greek HE, while Languages for General Purposes (LGP) courses are optional and offered later in the curriculum (Tseligka, 2016). The major fields of study of the respondents varied among Sciences (24%), Health Sciences (19%), Social Sciences (14%), Language Studies (13%), Computer Science (12%) and Education Studies (10%), while the rest 8% studied in other Departments. Finally, more than half of the participants (61%) studied at the University of Ioannina, 11% were students at the Aristotle University of Thessaloniki, 10% at the University of the Peloponnese, 7% at the University of Thessaly and 5% responses were received from the University of Patras and 5% from the University of Macedonia respectively, while the rest did not specify which institution they attended. Thus, it was not possible to confirm whether any responses were received from the National and Kapodistrian University of Athens (NKUA). This could be explained by the fact that in NKUA foreign languages are

[1] The National and Kapodistrian University of Athens, Aristotle University of Thessaloniki, University of Patras, University of Ioannina, University of Thessaly, University of Macedonia and University of Peloponnese.

primarily taught at the Foreign Language Teaching Center[2] –an autonomous academic unit, where languages are taught outside the degree curriculum for a specified tuition fee. However, for the purposes of this study, the researcher solicited data from students attending free FL academic modules integrated in their course curriculum and not any extra-curricular paid courses.

4.2. Research question 1: Did Greek students attend FL courses during the COVID-19 pandemic? Which factors are related to their attendance?

Our data suggest that the majority of the students (80.1%) attended a very high percentage of the online FL courses (75% ≥), despite the remarkable previous lack of experience in online distance learning (85%). Interestingly enough, those with no previous exposure to online learning displayed an increased participation (75% ≥), compared to students who answered 'Yes' (i.e. that they already had some experience in the past), as depicted in the following table.

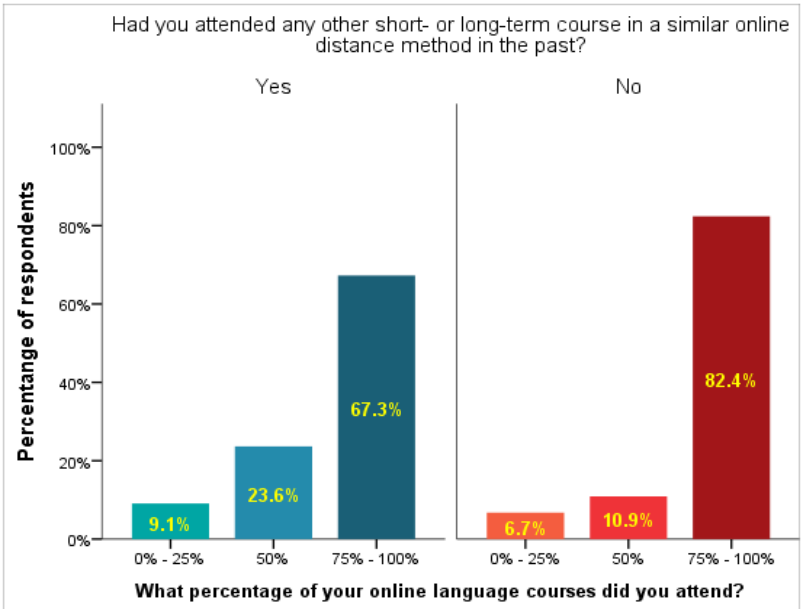

Table 1: Previous experience in online distance learning & FL course attendance

It might be the case that the novelty of online education and its unexplored features increased the motivation of novice users to engage in online learning, as supported also by Wells' et al. study (2010, p.813) which highlights the "perceived novelty [as] a salient affective belief that plays a significant role in the adoption of IT innovations".

As was expected, most of the students whose permanent residence was in a different city (82%) decided to return to their hometown upon announcement of suspension of face-to-face classes. However, no significant difference in attendance of online FL classes emerged between those who went back to their hometown and those who stayed in the city/town where they studied. Specifically, of those who went back home, 82% attended a very high percentage of their online classes (75% ≥). The corresponding percentage for those who continued to stay away from home was 79%.

Yet, despite the high attendance, upon announcement that FL classes would be transferred to an online mode, a number of students (36.5%) reported experiencing at least one negative emotion, such

[2] NKUA Foreign Language Teaching Center: https://en.uoa.gr/about_us/services_units/foreign_language_teaching_center/

as worry and disappointment and a little less than 1/3 (28.9%) expressed positive feelings of excitement and relief. For the purposes of the data analysis, we grouped students' responses as follows (see Table 2 below):
Negative emotions: those who selected any of the answers 'worried', 'scared' and/or 'disappointed'
Positive emotions: those who selected any of the answers 'excited' and/or 'relieved'
Mixed emotions: those who selected at least one negative AND one positive emotion
Indifferent: those who answered 'indifferent'
I didn't know what to expect: those who answered 'I didn't know what to expect'.

Variables	*n*	*%*
How did you feel when you heard that face-to-face (f2f) university lessons were going to be delivered online for the rest of the semester?		
Negative Emotions	134	36.5
Positive Emotions	106	28.9
Mixed emotions	77	21.0
I didn't know what to expect	40	10.9
Indifferent	10	2.7

Table 2: Students' affective responses to announcement of transfer online FL classes

Overall, we could note that students reported both negative and positive emotions with respect to the transfer to the online mode, while 1/5 of the respondents (21%) reported mixed feelings, which was a rather reasonable reaction considering the unprecedented nature of the situation at the time, as illustrated in the following comments: "*It is definitely an interesting experience which I wouldn't mind to choose on my own if I had the option. However, sometimes it's hard not to have a f2f contact with the students and the instructors, but there are solutions to this*", "*I am not Able to say, but f2f lessons can help more students learn sth, although learning from home is more accessible*". The presence of such ambivalent stances has also been documented in similar studies, as "the pandemic is a traumatic event and online learning is a complex process, in which the chances to succeed or fail are present, but uncertain. Thus, mixed feelings represent a typical position" (Maican & Cocoradă, 2021, p.15). In order to test whether students' affective responses were related to their attendance of online classes, a one – way independent samples analysis of variance was performed in order to evaluate the differences (Table 3).

	Attendance of online distance courses			F(3,363)
	N	M	SD	
Emotions after transition to online learning				3.26*
Negative Emotions	134	4.13	1.04	
Positive Emotions	106	4.43	.82	
Mixed emotions	77	4.18	.94	
I didn't know what to expect	40	3.83	1.04	
Indifferent	10	4.20	1.23	

*$p < .05$.

Table 3: One-way ANOVA for the attendance of students' online courses in relation to their affective responses about the transfer of FL classes to an online mode

The results show that there are statistically significant differences between the several emotions from the transition to online learning as regards the attendance of online FL courses [$F(3,363) = 3.26$, $p = .012$]. The post-hoc comparison, using the Tukey method, showed that those with positive emotions had higher attendance compared to those who did not know what to expect ($p = .007$). It seems that those students who were mostly unprepared and discouraged by the new reality were mostly deterred from attending online courses, compared to those who managed to embrace with more positive thinking the new teaching and learning reality.

When prompted to identify the most significant reasons that deterred students from online attendance, long screen exposure (32.1%) and the lack of engaging interaction (24.2%) emerged as the main demotivating factors, as depicted in Table 4 below.

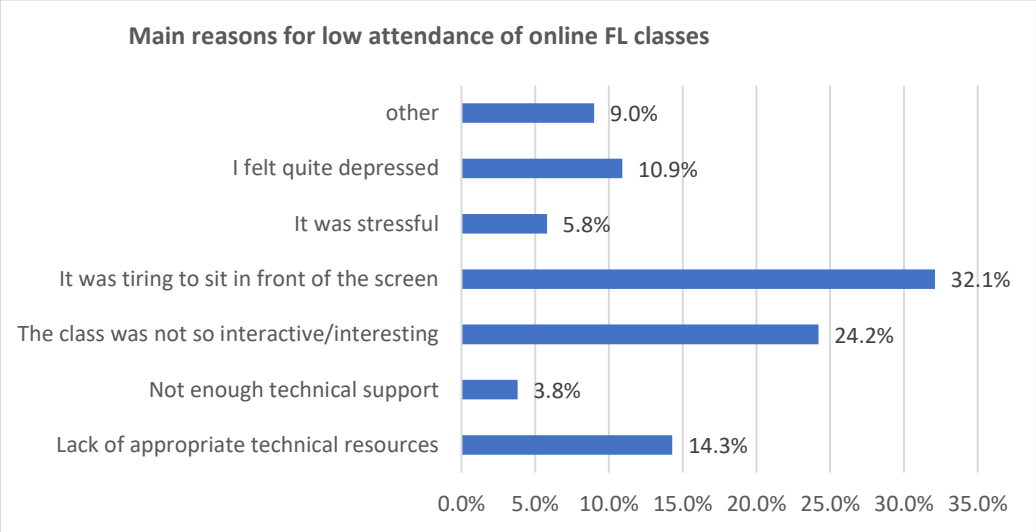

Table 4: Main reasons for low attendance of online FL classes

This is not surprising as H.E. instruction was exclusively delivered online at the time – including both theoretical and lab sessions – imposing arguably a heavy strain on students. This is precisely foregrounded in one respondent's comment: "*the lack of face-to-face lessons and immediate interaction between the teacher and the students is the major disadvantage that made difficult, boring and awkward the teaching process for both sides*". Similar studies have illustrated that the increased screen exposure compounded with physical inactivity during home confinement in the spring of March 2020 severely disrupted undergraduates' sleeping patterns (Majumdar *et al*., 2020), which could have most likely impacted their academic performance. Accordingly, Alexiou & Michalopoulou (2022) found that the more hours Greek students spent on online learning, the more dissatisfying their learning experience was.

Furthermore, the decreased interaction either between learners-teachers or among learner groups has been confirmed as a major trigger of negative emotions in online learning during the pandemic in the Greek context (Alexiou & Michalopoulou, 2022; Kalogerou, 2021; Kamarianos *et al*., 2020), and particularly in the case of low-achieving students (Maican & Cocoradă, 2021). Frequent comments by our respondents ("*It is really difficult for all the students to sit in front of the computer so many hours the day and not be able to participate and talk during the online courses", "f2f interaction is the best way to learn a foreign language and this is something that can not be offered in Online Lessons")*

underlined the difficulties caused by the lack of peer in-class interaction in FL learning. An independent sample T- test was performed to examine whether those who found the online course interactive/interesting showed higher attendance of online courses compared to those that did not rate the courses as such (Table 5).

Independent samples t-test scores and values of descriptive statistics

	Was the course interactive/interesting?						
Measure	Yes		No		95% CI for the mean difference	t	Df
	M	*SD*	*M*	*SD*			
Attendance of online distance courses	4.37	.89	3.93	1.04	-.64, -.24	-4.35***	365

Table 5: Students' attendance of online FL classes in relation to their perception of course as interactive/interesting

The results of the t-test independent samples showed that the mean attendance of online distance courses differed statistically between those who found the course interactive/interesting (*M* = 4.37, *SD* = .89) and those who did not find the course interactive/interesting (M = 3.94, SD = 1.04) [*t*(365) = -4.35, *p* <.001], with the former displaying a higher rate of attendance than the latter –a finding verified by similar studies (Maican & Cocoradă, 2021; Kalogerou, 2021). It could be the case that the urgent nature of ERT, especially during its initial stages, called for a more directive approach, where instructors undertook a more leading role, guiding students through this rapid transition to a fully online environment at the expense of more interactive activities. Apparently, such a compromise was necessary at the time, even at the expense of lively classroom discussions, which are conducive to learners' increased language learning progress (Huang *et al*., 2020). Also, the possible lack of instructors' training and previous experience with the pedagogic methods and principles of FL courses delivered fully online, as recorded in another survey (Zamborová *et al*., 2021), may have also contributed to the decreased interaction opportunities in online FL classes during the pandemic.

On a separate note, a significant number of participants (N=104) stated that their attendance was hindered, among others, due to the lack of access to the appropriate technological affordances and lack of adequate technical support –a finding in line with previous studies (Jansem, 2021; Ritonga *et al*., 2021). An independent sample T- test was performed to examine the relationship between the technical difficulties encountered and the students' attendance rate. It showed that the mean attendance of online distance courses did not differ between those with (M = 4.14, SD = 1.00) and those without (M = 4.22, SD = .97) technical difficulties during online learning [t(365) = -.64, p =.523]. Yet, this number of students should by no means be overlooked, particularly as there were also frequent observations by the respondents underscoring these technical issues: "*Many students cannot afford the appropriate materials to participate in online class (e.g Internet access, microphone etc.)", "Due to equipment problems, the students will waste time answering the questions, resulting in lower classroom efficiency", "There are some people who do not have pc or desktops in their home or even they do, they not have a Wi-Fi connection (the circumstances forced them to acquire it anyway). What I want to say is that many of our people did not have the time to prepare themselves for this big transition to distance courses due to financial problems. … For example they used their mobile phones to connect -sometimes with no success- or used MB because of the lack of Wi-Fi connection".* Such comments raise profound concerns about equity of access to education since lack of resources directly impact student performance and overall pedagogical design (Czerniewicz *et al.*, 2020). Considering that technology is predicted to be even more widely embraced in HE in the following years, special

provision needs to be made for disadvantaged students to avoid deepening the digital divide in education.

The above findings were further verified by our study because when students were asked what should be done to improve potential future delivery of online FL learning lessons, nearly 1/3 (30%) of the respondents emphasised the need for an increased technical support and availability of resources to learners and instructors, while another 30% stressed the integration of a variety of digital tools to make FL learning more effective.

4.3. Research question 2: How did students evaluate online FL learning?

Upon completion of the courses, 1/4 of the respondents evaluated the classes as interesting (25%) and easy (14%) while at the same time they found the lessons tiring (20%) and boring (13%). As was previously discussed, excessive screen exposure emerged as a major cause of fatigue and dissatisfaction for many students, as exemplified by these comments: "*Online Lessons are really exhausting. It is not possible and easy for the students to spend 5-7 hours, alone in their room, in front of a computer screen doing online lessons and then study for hours again in front of a pc*", "*I believe that it would be better if the online courses lasted as long as the scheduled time because it is tiring after two hours*".
For the purposes of the data analysis, we grouped students' responses as follows (see Table 6 below):
Positive evaluation: those who selected any of the answers 'interesting', 'easy' and/or 'exciting'
Negative evaluation: those who selected any of the answers 'tiring', 'boring' and/or 'time-consuming'
Mixed evaluation: those who selected at least one positive AND one negative evaluation
Same as before: those who answered 'same as before'.

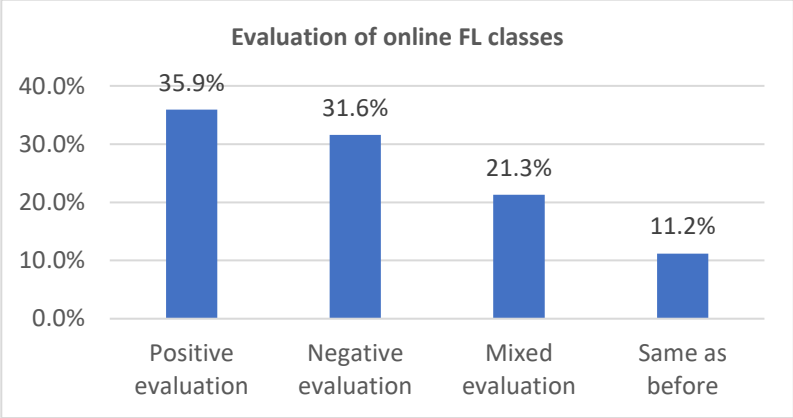

Table 6: Evaluation of online FL classes

Despite the fact that almost 1/3 of the students (31.6%) were unsatisfied with the online FL lessons, a slightly higher percentage (35.9%) provided a positive assessment, even under these emergency circumstances, while 1/5 of the respondents displayed mixed evaluations, in parallel with their mixed emotions towards the transition to online distance learning presented earlier. Typical is the following comment by one student: "*Despite all the anxiety and worries about the covid pandemic, it was an interesting and much more excited way to get into such classes. Finally, all of our teachers tried their best in order to make us feel relaxed in such difficult days we are still facing, and also explore the whole world of online courses*".

Among the most frequently employed digital tools (whether for asynchronous or synchronous use) MS Teams, Google apps (e.g. google drive, google docs), Skype, Zoom, Vidyo, Moodle, WebEx, Padlet, Kahoot and Reverso were recorded as the most popular ones. No major differences were found in the

evaluation between the online applications for asynchronous vs synchronous use, although the latter were considered slightly more interesting, providing more opportunities for language learning according to some students (Table 7).

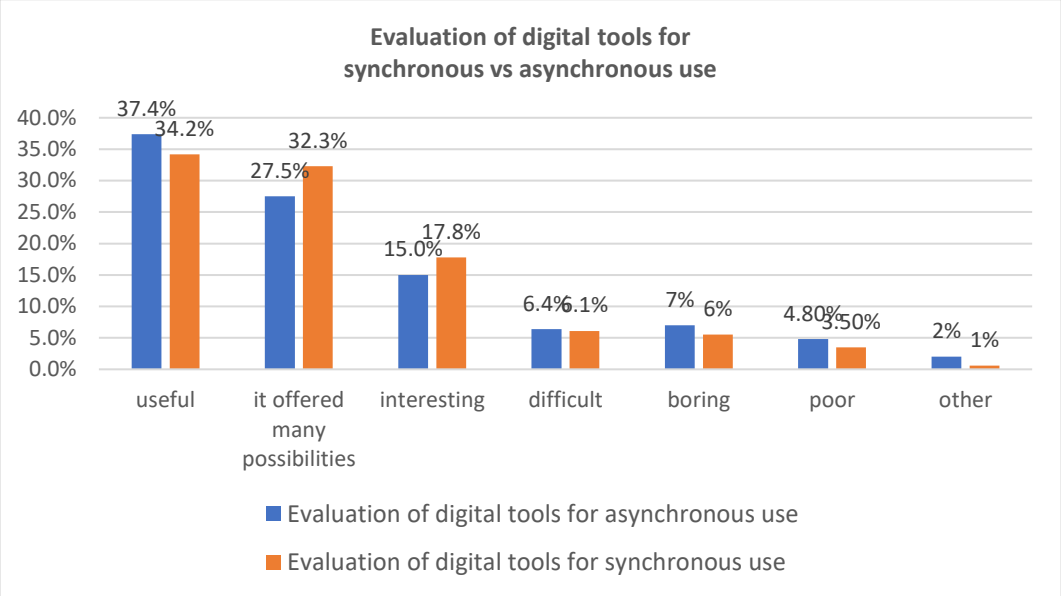

Table 7: Evaluation of digital tools for asynchronous vs synchronous use

With regards to the teaching and learning material employed during ERT, it seems that it appealed to a few more than half of the respondents, who evaluated it primarily as 'useful' (27%), 'interesting' (21%) and 'rich in variety' (18%), as displayed in the results below (Table 8).

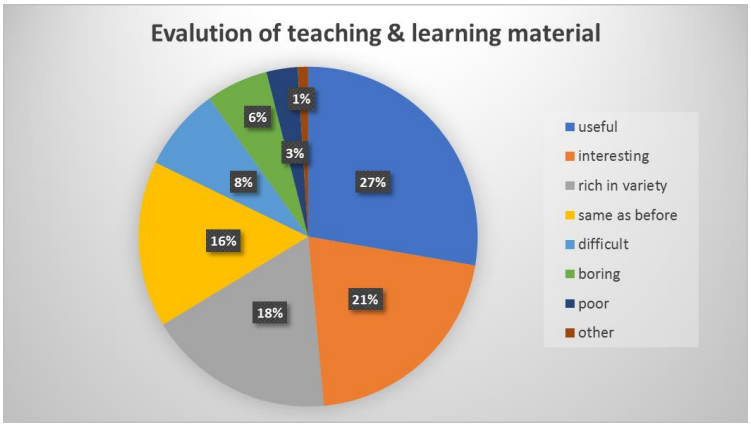

Table 8: Evaluation of online FL material

Considering the little time that language educators had to adapt the available teaching resources and digitally modify LsAP lessons, their effort can be evaluated as praiseworthy at the very least, in view of such positive evaluations ("*The tutor did her best to provide us with every material she had and she also tried to make the lesson enjoyable*"). In view of the relevant literature that underlines the importance of suitable digital teaching resources for an effective online course delivery, especially for the millennial generation (Fansuri *et al*., 2020, Gacs *et al*., 2020), a Chi-square χ2 test was performed to check the relation between the evaluations of the teaching/learning material and the evaluations of the transition to online distance learning in the online FL class. A statistically significant relation was found between the tested variables [$\chi2(9) = 129.07$, $p < .001$, $V = .342$]. Those with positive evaluation

of the teaching/learning material in the online foreign language class had a positive evaluation of transition to remote online distance learning experience in the foreign language classes (*n* = 110, 83.3%) (Table 9).

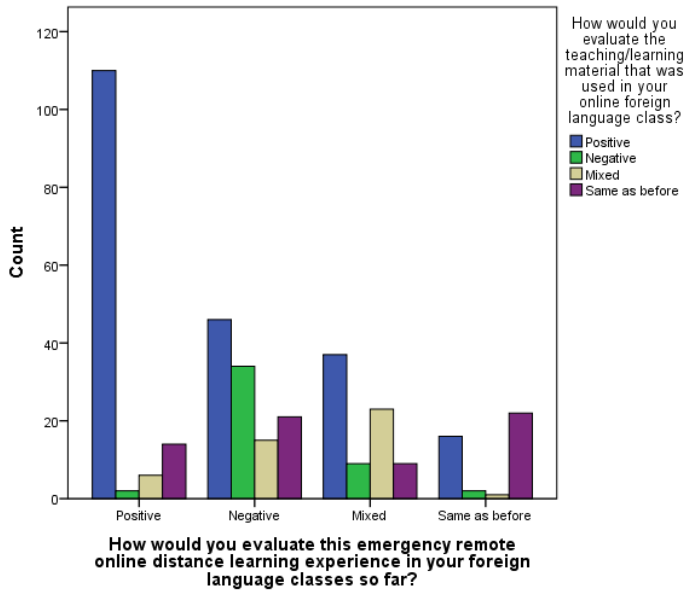

Table 9 Evaluation of transition to online FL learning in relation to evaluation of teaching/learning material

Informal discussions between the researcher and EAP/ESP colleagues from the surveyed universities revealed that many of them did not use printed coursebooks during ERT (since these were mostly unavailable for students at the time) but integrated more authentic and multimodal material (e.g. videos, TED talks, online exercises) that seem to have appealed to the students. A broadscale survey by Zamborová *et al*. (2021) among more than 700 FL instructors in European university language centres also confirmed teachers' commitment, dedication, flexibility and adaptability to the online mode of teaching and its affordances during the pandemic, despite the lack of available technological support and training.

Finally, students' responses regarding the benefits of language learning online indicated that the majority mostly valued the digital skills developed through these online applications as well as the overall experience (with 22% and 26% respectively), as presented in Table 10 below.

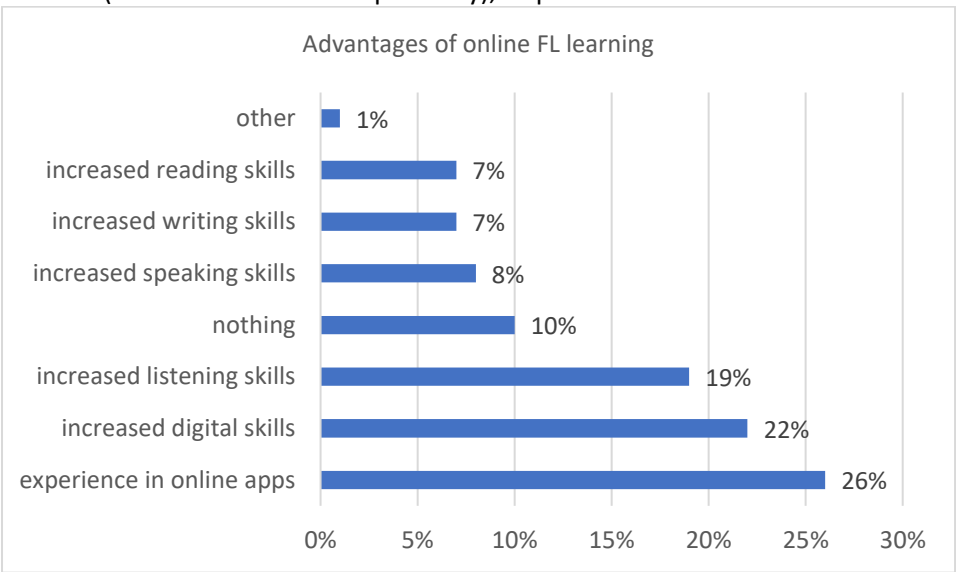

Table 10 Advantages of language learning online

As one student characteristically noted, "*I believe that the COVID-19 pandemic and the subsequent transition to everything digital provided an interesting and much needed opportunity to better explore how useful computers and software can be in the domain of learning*". This finding concurs with a relevant study where international students of English as a Second Language at a university in Cyprus reported benefits in technological literacy (Hassan *et al.*, 2021). This is quite significant considering that students' digital competence in higher education settings remains at a basic to a medium level (Zhao *et al*., 2021). Hence, a unique opportunity emerges here for HE institutions to capitalise on the technological competencies students gained during the pandemic and aim to further equip them with advanced digital skills in order to fully exploit e-learning opportunities.

When evaluating advancements specifically in language learning skills, only listening emerged as moderately improved by 19% of the participants, while performance in all the other skills (i.e. speaking, reading, writing) appeared not to be seriously enhanced since less than 10% recorded gains in that respect. Taking into consideration that these online 'video-lectures' (i.e. with the use of a video-conferencing system such as Zoom, Skype, MsTeams, etc.) were mostly teacher-directed (as mentioned beforehand), it seems that learners experienced more opportunities to practise their listening skills, since they primarily had to listen to and comprehend their instructors' course delivery.

The lack of a balanced integration and practice of all four skills was also verified when students were asked about the major disadvantages of online FL learning, where the productive skills, i.e. speaking (33%) and writing (20%), appeared to be more hampered compared to receptive skills, i.e. reading (11%) and listening (15%). Particularly the lack of interpersonal speaking activities is usually one of the most challenging factors in online language education and was equally confirmed in other studies (Gacs *et al*., 2020, Ritonga *et al.,* 2021, Zamborová *et al*., 2021), even more so when catering to large-size audiences as the ones in Greek HE. From personal experience, I should note that it was hardly manageable trying to practise academic FL speaking skills with student groups where the registered number of online attendants was 100-150≥ –an observation illustrated in the following student comment: "*I attended both foreign language courses and university courses during the pandemic…it was harder for the foreign language courses, we could not really practise our speaking skills…*".

5. Conclusion

The present study discussed the disruptions in LsAP learning and teaching in Greek HE in the wake of the Covid-19 outbreak, forcing an unexpected transition to online remote teaching. Findings suggest high attendance rates, related to the novelty of the online delivery mode and the participants' positive feelings towards this transitioning, while prolonged screen exposure and lack of interactive engagement appeared as the main hindrances to course attendance. Students' technical deficiencies appear to raise issues of equity. Mixed emotions towards online FL learning courses were also recorded, with students reporting the least progress in their speaking skills development. However, the teaching material used was overall positively evaluated, along with recorded gains in students' technological competencies.

With the HE reality in a transition stage, the main implication of the above findings concurs with Gacs' et al. (2020, p.390) view, that "attention to instruction in F2F, online and hybrid formats will undoubtedly continue to be a necessity, with special attention to adaptability, flexibility, and quality instruction remaining at the centre". Hence, it is strongly suggested that expertise in IT skills should become part of LsAP instructors' skill set in terms of their professional development (Hodges, et al, 2020). Specifically, they should try to integrate innovative technologies with careful preparation, diversity of tools and appropriate educational methodology after this crisis-prompted situation is resolved. As an example, breakout rooms, which allow for pairing-up of students in small groups, have been found to facilitate more active learner-to-learner interaction, provide more opportunities for

speaking skills practice and make the course more interesting and active (Gruber and Bauer, 2020). This might be of great use for the large audiences of Greek LsAP classes. At the same time, technology-enhanced blended learning might promote a more student-centred approach with increased involvement, participation and responsibility (Šafranj, 2013), a mode that appears to be more preferred than the exclusive use of e-learning (Maican & Cocoradă, 2021).

It will, certainly, take time to mend both the health as well as the social, psychological, and educational wounds in the post-Covid era. Technology, as a modern Asclepeion, might be conducive to this process by offering innovative solutions, resource variety, individualised material and multiple modalities, stimulating motivation and autonomous learning. What is more, "there is an opportunity in the moment for genuine equity-focused innovation, policymaking, provision and pedagogy" (Czerniewicz, *et al*., 2020, p.963). To this end, it is imperative to secure effective educational training for all stakeholders involved (teachers, students, administration support), as well as a robust technological infrastructure that will leave no one behind.

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APPENDIX

QUESTIONNAIRE
The impact of COVID-19 pandemic on foreign language teaching & learning in Higher Education
Section 1
Background information

1) Gender
   - Female
   - Male
   - Prefer not to say
2) Age
   - 18-20
   - 21-23
   - 24+
3) Nationality : _____
4) Are you a(n):
   - undergraduate student?
   - postgraduate student?
   - other: _____
5) Were you on an Erasmus+ exchange programme when the COVID-19 pandemic hit the country you were studying at?
   - Yes
   - No
6) When the COVID-19 pandemic started, which COUNTRY and which UNIVERSITY were you studying at?

_____

7) What academic field do you study (e.g. Medicine, Physics, Fine Arts, Chemical Engineering, Primary Education, etc.)?

_____

8) What YEAR are you in your studies?
   - 1st
   - 2nd
   - 3rd
   - 4th
   - 5th
   - 6th
   - Other: _____

Section 2
BEFORE transition to Emergency Online DISTANCE Teaching/Learning

9) BEFORE THE TRANSITION to online DISTANCE LEARNING, were you studying in your hometown or in a city/town different from your hometown?
   - I was studying in my hometown
   - I was studying in a city/town different from my hometown
   - Other: _____
10) IF YOU WERE STUDYING IN A CITY/TOWN different from your hometown, what did you do as soon as the suspension of face-to-face (f2f) classes was announced?
   - I went back to my hometown
   - I stayed in the city/town where I studied
   - Other: _____
11) How did you feel when you heard that COVID-19 PANDEMIC had hit the country you were studying at? (you can TICK more than one answers)
   - Worried

- Scared
- Disappointed
- Indifferent
- I didn't know what to expect
- Other: _____

12) How did you feel when you heard that face-to-face (f2f) UNIVERSITY LESSONS were going to be delivered online for the rest of the semester? (You can tick more than one answers)
    - Worried
    - Scared
    - Disappointed
    - Excited
    - Relieved
    - Indifferent
    - I didn't know what to expect
    - Other: _____
13) Before this transition to online DISTANCE learning, had you attended any other short- or long-term course in a similar ONLINE DISTANCE METHOD in the past?
    - Yes
    - No
    - Other: _____

Section 3

AFTER transition to Emergency Online DISTANCE Teaching/Learning

14) Which FOREIGN LANGUAGE COURSE did you attend online during the COVID-19 pandemic (e.g. Medical English, Business German, English for Engineering, French for Arts, Italian for Beginners, etc.)?

_____

15) What percentage of the online DISTANCE COURSES did you attend?
    - Almost 0%
    - Up to 25%
    - Around 50%
    - More than 75%
    - Almost 100%
16) What were the main reasons that you DID NOT ATTEND some or all of the ONLINE DISTANCE COURSES (you can TICK more than one answers)?
    - I didn't have the appropriate technical resources (i.e. lack of pc, slow Internet connection, lack of mic, etc.)
    - There wasn't enough technical support to help me join and attend the online classes
    - The class was not so interactive/interesting after it started being delivered online
    - It was tiring to sit in front of the screen for a long time
    - It was stressful to attend online courses
    - I felt quite depressed because of the COVID-19 situation, and I was in no mood to attend any courses in general
    - Other: _____
17) How would you evaluate this emergency remote online DISTANCE learning experience in your FOREIGN LANGUAGE CLASSES so far? (you can TICK more than one answers)
    - Easy
    - Interesting
    - Exciting
    - Boring
    - Tiring
    - Time-consuming
    - Same as before
    - Other: _____
18) What has been the MOST DIFFICULT aspect of this emergency remote teaching/learning in your FOREIGN LANGUAGE course? (you can TICK more than one answers)
    - technical difficulties (i.e. bad connection, lack of sound/mic, etc.)
    - carrying out online exercises (lacking the appropriate digital expertise)

- sitting in front of the screen for a long time
- lack of f2f interaction with other STUDENTS
- lack of f2f interaction with the INSTRUCTOR
- lack of supplementary paper-based material (i.e. printed books)
- too much homework
- too many participants in the online class
- inappropriate teaching material due to the little time allocated to INSTRUCTORS to prepare for the new situation
- lack of adequate time for STUDENTS to adjust to the new situation
- other: _____

19) How would you evaluate the teaching/learning material that was used in your online FOREIGN LANGUAGE class? (you can TICK more than one answers)
    - Interesting
    - Useful
    - Rich in variety (multimodal, numerous resources)
    - Boring
    - Difficult/demanding
    - Poor
    - Same as before
    - Other: _____
20) Out of all the platforms/applications that were used in your ONLINE DISTANCE sessions, which ones did you find most appealing and useful? (e.g. MsTeams, padlet, google forms, Kahoot, etc.)

_____

21) How would you assess the platform that was used for ASYNCHRONOUS teaching/learning in your situation (i.e. moodle, etc.)? (You can tick more than one answers)

- Interesting
- Useful
- It offered many possibilities (i.e. chat, video, rich material to be uploaded)
- Boring
- Difficult/demanding
- Poor
- Same as before
- Other: _____

22) How would you assess the platform that was used for SYNCRHONOUS teaching/learning in your situation (i.e. MS Teams, big blue button, zoom, Skype for Business, etc.)? (You can tick more than one answers)

- Interesting
- Useful
- It offered many possibilities (i.e. chat, video, rich material to be uploaded)
- Boring
- Difficult/demanding
- Poor
- Same as before
- Other: _____

23) What do you think you have EARNED out of this TRANSITION to online DISTANCE learning method in your FOREING LANGUAGE COURSES? (You can tick more than one answers).
    - increased digital skills
    - experience in using various online applications for language learning
    - increased listening skills
    - increased reading skills
    - increased writing skills
    - increased speaking skills
    - nothing at all
    - other: _____
24) Which do you think has been the major DISADVANTAGES out of this TRANSITION to the online distance learning method in your FOREIGN LANGUAGE COURSES? (You can tick more than one answers)
    - inadequate practice of listening skills

- inadequate practice of reading skills
- inadequate practice of writing skills
- inadequate practice of speaking skills
- nothing at all
- other: _____

25) In the FUTURE, if such a need for ONLINE LESSONS emerges again, what do you think should be done to improve the delivery of FOREIGN LANGUAGE LESSSONS in Higher Education?
    - increased technical support and resources to learners and instructors
    - more educational training to students and instructors so as to adapt f2f to online delivery of FOREIGN LANGUAGE CLASSES
    - more time should be allocated to preparing appropriate FOREIGN language teaching/learning material
    - a variety of digital tools should be integrated to make FOREIGN language learning more effective
    - other: _____
26) Do you have any final comments to make regarding the impact of COVID-19 pandemic on FOREIGN language courses delivered in Higher Education?

    _____

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EFL educators in the COVID-19 era: Examining the case of Greece

Dina Tsagari, Jenny Liontou & Christina-Nicole Giannikas

In early 2020, the abrupt global outbreak of the COVID-19 pandemic prompted Emergency Remote Teaching (ERT) in all fields of education. This abrupt transition to online teaching and learning shocked most language educators. Practitioners and researchers around the globe raised questions and concerns as a result of the rapid planning and implementation. In this study, which forms part of an international survey on educators' attitudes and online teaching activities during the pandemic, we look into EFL instructors' behaviours within the Greek educational system. More specifically, the article presents EFL educators' attitudes towards online learning and their reported feelings of confidence and satisfaction when facing the challenges of converting their face-to-face (F2F) courses into online ones during the COVID-19 pandemic. As a result of our study, we were able to look into the psychological and instructional difficulties the Greek ELT community experienced when reimagining synchronous and asynchronous teaching in a digital environment. Finally, the article discusses the impact and some of the lessons learned from this national experience.

Key words: Language Education; Emergency Remote Teaching; Teaching Online; Digital Literacies; Teacher Education; COVID-19

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1. Introduction

In the week ending December 31, 2019, Wuhan health authority reported 27 pneumonia cases of an unknown aetiology (Committee W.C.H., 2019). As a result of medical investigations, this pneumonia has been identified as Coronavirus pandemic (2019-nCoV) or COVID-19. In response to the abrupt global outbreak of the pandemic in late 2019-early 2020, Emergency Remote Teaching (ERT) was implemented in all fields of education. Globally, educational authorities closed schools almost instantly to prevent the spread of the disease, a situation that prompted UNESCO to call on countries to ensure that learning takes place in both formal and informal settings. As a result of the abrupt switch from in-person instruction to online instruction, a rapid introduction to online tools alongside the adaptation of teaching methods was required by most language educators (Giannikas *et al*., 2022).

This was also the case in Greece. After 89 confirmed cases and no deaths, the government, in collaboration with the Greek National Health Organisation, suspended face-to-face instruction nationwide on March 10th, 2020 (https://eody.gov.gr/en/). As stated by the Ministry of Education and

Religious Affairs, this was an opportunity to present and apply pending reforms related to digital knowledge and skills (http://gemreportunesco.wordpress.com). However, this was far from a simple task, mainly due to a longstanding legacy of a financial crisis. In accordance with the OECD (data based on the 2018 PISA), the country's poor finances have delayed necessary investments in Information and Communications Technology (ICT) and have deepened poverty. More specifically, OECD has published that in Greek schools there are one in five students without access to computers and one in ten without internet access. The lack of technological resources did not stop there. According to the OECD data, more than 1 in 3 students worked with educators who were unable to incorporate digital devices into their classrooms due to an insufficient amount of equipment or a lack of pedagogical skills. A result of these circumstances there was recognition by head teachers that an effective online learning support platform was not possible. Given the little time the Greek Ministry had at their disposal in March 2020, they issued instructions for the use of both asynchronous and synchronous teaching.

Following the UNESCO guidelines (https://gemreportunesco.wordpress.com), asynchronous teaching (non-real-time one) became compulsory, with every teacher (of all disciplines) required to upload lessons and assignments. Asynchronous learning was applied with:

- interactive textbooks (http://ebooks.edu.gr/new/) and other learning materials (http://photodentro.edu.gr/aggregator/) as well as digital lesson plans (http://aesop.iep.edu.gr/); and
- two digital education platforms, (https://auth.e-me.edu.gr/en_US) and (https://eclass.sch.gr/), for students and teachers.

Synchronous (real-time teaching) became mandatory only for students in the final year of high school and was supported through:

- Webex services (https://youtu.be/qQIx91b3WMk),
- the national School Network platform (http://lessons.sch.gr/) that uses the Big Blue Button open software.

The rapid planning and implementation of emergency remote teaching has raised issues and questions among practitioners and researchers worldwide. In the context of a larger international study, this article brings under the spotlight the field of primary and secondary English as a Foreign Language (EFL) education in Greece and examines issues pertinent in teacher education through adaptive systems viewed from the perspective of complexity and unpredictability. In particular, this article focuses on Greek EFL educators' attitudes towards online learning and their perceived feelings of confidence and satisfaction when facing the challenges of converting their face-to-face (F2F) courses into online ones during the COVID-19 pandemic. Our findings reveal the difficulties encountered by the Greek English Language Teaching (ELT) community in reimagining synchronous and asynchronous teaching in the digital era, as well as the lessons learned from this national emergency remote teaching experience.

2. Literature Review

2.1. Emergency Remote Teaching vs. Online Education

In emergency remote teaching (ERT), instructional delivery is abruptly switched to online mode after an immense catastrophe or crisis occurs, a situation that is very different from the delivery of courses, which are initially designed and intended to be delivered from a distance (Mohammed, 2022). The literature associates ERT with poor online teaching infrastructure and teacher inexperience (Zhang *et al*., 2020), as well as a lack of teacher competency in utilising digital instructional formats (Huber & Helm, 2020). However, the vast majority of language educators have been tempted to associate online education with ERT. Online education is known to carry a stigma of being of lower quality than face-

to face (F2F) learning, despite research studies showing otherwise. Using a variety of educational tasks, it offers students the opportunity to customise their learning according to their own way of learning, rather than following a tactical pre-organized learning programme, allowing them to learn at their own pace (Thoms & Eryilmaz, 2014).

The rushed transfer to online learning by so many educational institutions could validate the perception of online education as being the weak option, when in truth it is impossible to make a smooth transition in the middle of a pandemic (Bozkurt & Sharma, 2020; Hodges *et al*., 2020). A longer period of time was needed for educators and institutions to prepare for ERT. The academic community and educators have, however, struggled to develop online learning platforms due to the lack of advanced technology, experience, and training (Mohammed, 2022). Additionally, a suitable environment is necessary for efficient delivery of remote teaching. At this point, it would be unfair to place online distance education and ERT in the same equation as the approach, circumstances and preparation process differ immensely. In ERT, digital tools are utilised to deliver curriculum that would normally be delivered in a blended learning environment or through face-to-face interaction. Mohammed (2022) conclude that once the crisis subsides, instructional delivery will return to its original format.

2.2. The Teachers' Perspective and Preparedness

Previous studies have shown that studies on teaching approaches to assist with social distancing in schools have concentrated on extended school closures; however, according to Uscher-Pines *et al*. (2018) little attention was ever paid to the procedure and feasibility of these interventions. Since teachers played a crucial role in sustaining the educational ecosystem during the initial global lockdown, it has become imperative to understand the situation from their perspective. Nonetheless, it has been observed that it was teachers' fear of using digital tools that inhibited them (Carrier & Nye, 2017 cited in Giannikas *et al*., 2022).

As noted by the OECD (2020), COVID-19 struck at a time when participating education systems were not ready for the world of digital learning, as revealed by the Programme for International Student Assessment (PISA) implemented by the OECD in 2018. More specifically, data indicated that shortages or inadequacy of digital technology hindered learning (OECD, 2019). Digital skills have proved to be vital given the instant global shift towards online teaching during the COVID-19 lockdown. Before the crisis, teachers reported a need for training in the use of ICT for teaching. In particular, 18% on average cited this as a high training need, coming in second only to teaching students with learning differences (OECD, 2019). Despite its benefits, the mere presence of technology cannot lead to students' progress (Li & Ma, 2010) since teacher education plays a defining role (Giannikas *et al*., 2022).

Moore-Adams *et al*. (2016) argue that high quality online teachers are necessary in order to meet the needs of online language learners. Although this is the case, teachers are frequently asked to assume online teaching roles without any formal training, and are expected to learn as they teach through brief training sessions or workshops (Rice & Dawley, 2009). Due to these learning experiences, language teachers have been unable to develop effective online teaching techniques (Archambault, 2011). Additionally, the introduction of online instruction training has been slow in pre-service teacher education programs. According to Carrillo and Flores (2020), well-established teacher education in online learning is in immediate need and must go beyond emergency online practices, where the particularities of digital pedagogy and its implications should be emphasised. Carrillo and Flores also argue that there is a need to go beyond the instrumental approach when it comes to online teaching and learning.

Back in 2007, Watson claimed that most educators and policymakers still lacked a basic understanding of how online education programs worked, what an online course should look like, and most importantly, how students can learn online. Unfortunately, this has not changed in the COVID-19 era. The necessity of integrating preparedness content into basic teacher education has been emphasised. Preparedness has become an important goal of education for young learners in many countries (Cabilao-Valencia *et al*., 2018). However, due to the unclear nature of preparedness in this context, it is unclear if, in situations such as disasters, diseases, and emergencies, preparedness is the same. As we move into the new normal post-COVID-19, goals such as this will need to be contextualised within the possibility of pandemics that will lead to preparedness for the new digital age.

2.3 The Greek ELT Context

Before moving into presenting and interpreting research findings, it is necessary at this point that the reader be introduced to the ELT context in Greece, as it can be considered complex. Practitioners are required to have graduated from a Greek or foreign university with a degree in English Language and Literature. Obtaining a university degree allows for their appointment in primary and secondary state schools. According to Alexiou & Mattheoudakis (2011), English teachers in the specific context (and beyond), in addition to being proficient in the language they teach, must be familiar with various teaching methods; nonetheless, the training of language teachers is considered to be overseen at Greek universities (Alexiou & Mattheoudakis, 2011). Greek state schools began offering EFL in the first and second grade in 2010 in line with EU recommendations regarding language learning (Karavas, 2014), which is continued throughout their primary and secondary education. According to Sifakis and Sougari (2003), the curriculum reveals that it embraces learner-centred approaches, with an emphasis on technology-related issues. More specifically, Dendrinos *et al*. (1997, p. 65) draw attention to instances where students are referred to as 'citizens of a technologically advanced Europe'. Additionally, Dendrinos *et al*. (1997) highlight the necessity for a national curriculum of Foreign Languages that would help 'the development of the skills required for the use of technological tools in order to achieve particular learning and utilisation goals' (p. 68).

As outlined by Bray (2003), many students also take private language lessons alongside their state school language classes, commonly referred to as supplementary private tuition. In response to this, there is a flourishing market in the private sector for students as young as eight years old to learn foreign languages. Such an escalation of language studies will ultimately allow students to take English language exams and obtain a certificate (Alexiou & Mattheoudakis, 2011; Tsagari, 2009). Even so, the quality of ELT exposure students receive outside of the state school system varies widely depending on the socioeconomic situation of their parents (Mattheoudakis & Alexiou, 2009). Overall, private language schools prepare students for high-stakes exams administered by national or international examination bodies (Tsagari, 2009). Greeks are not the only ones who practise private language education. Private education is prevalent in many countries around the world (Tsagari & Giannikas, 2018, 2021). According to Bray's (2011) study, private tutoring costs European families astounding amounts of capital every year, as displayed in Table 1.

Country	Year of Research	Costs (€ - million)
Austria	2010	126
Cyprus	2008	111.2
Germany	2010	942
Greece	2008	952.6
Italy	2010	420
Romania	2010	300
Spain	2010	450

Table 1. Shadow education expenditures (Bray, 2011, p. 46)

The following sections present a selection of findings based on data gathered from primary and secondary ELT education professionals of the private and public sector all over Greece in an attempt to explore their online teaching experiences and elaborate on the different challenges faced during the COVID-19 pandemic.

3. Research Methodology

The present study aims to fill an important gap and provide suggestions for teacher education programs by presenting research findings regarding EFL educators' struggles with remote emergency teaching, not only because of technical issues, which are in no case undermined, but because teacher education and policy makers have fallen short and have not equipped practitioners with a Plan B. This work is guided by the following research questions:

(1) What has been the Greek EFL teachers' reaction to the change from face-to-face to online classes?

(2) Which are the EFL teachers' in Greece perceived training needs in online teaching and were such needs catered for by the Educational Leadership of the country during the pandemic?

In order to investigate EFL educators' attitudes and familiarity with online learning, a detailed questionnaire was created by the authors of the present paper and administered at a national and international level using electronic means from 1st April till 30th May 2020 (Appendix 1). Given the wealth of collected data, a selection of findings from Cypriot EFL teachers was presented in January 2022 in a separate paper by Giannikas, Tsagari and Liontou. An adaptation of the present questionnaire was also used by Karavas and Liontou in a study investigating university students' experiences from a blended delivery course model in Greece (Karavas & Liontou, 2022: 98).In accord with the purposes of the present study, teachers were asked to fill out the questionnaire in order to share information about their online teaching experiences prior to and during the pandemic (rated on a 5-point Likert scale) and describe their views on online versus face-to-face lessons, perceptions of students' personal involvement, perceived positive and negative aspects of online teaching practices, training needs, etc., as well as their attitudes towards online lessons (level of satisfaction, engagement, motivation, etc.). The questionnaire contained the following Sections: A) Demographic Information, B) Online Teaching, C) Resources and Feedback, D) Transition from Onsite to Online Teaching, E) Online Support, F) Student Response, and G) Teacher Training Needs. By email, the questionnaire reached a wide audience, with an expected completion time of about 30 minutes. A link to the online questionnaire and information about the study were included in the email sent to individual respondents.

The questionnaire was piloted with six EFL teachers who provided feedback as regards the extent to which the statements: 1) appeared reasonable for gathering the intended information; 2) were relevant to the issue and 3) implied what the intended outcome was for the specific data collection tool. The high internal reliability of the research instrument was further attested through Cronbach's Alpha coefficient estimate (α=0.87).

4. Research Findings and Discussion

The total number of participants in the present survey was 251 EFL teachers located all over Greece, the vast majority of whom (91%) were female. Almost half of the participants worked in the public sector (53%) while (46%) were employed in private schools or language institutions. All participants had an official EFL teaching licence while half of them (52%) were holders of an M.A. degree in TEFL or a relevant field. A similar percentage of respondents worked in primary or secondary schools (26% per educational context) with the remaining participants holding a position in a language school (24%), a higher education institution (8%) or offering lessons as freelance teachers (12%). Finally, as regards basic demographic information of our sample, the great majority of respondents had been teaching English as a foreign language for 11-20 years (41%) while a significant percentage (35%) had more than 20 years of teaching experience.

Once individuals' profiles were determined, data were subjected to descriptive data analysis using SPSS 28.0 software. A frequency distribution was produced after eliminating missing data and presenting all percentages as valid percentages. According to Wiersma (2008: 198), survey results frequently contain this kind of descriptive data because it allows the researcher to explore the central tendency of responses to each question, while the spread out of responses from that centre can also be explained in basic terms. Given the relatively short length of this paper and the extensive amount of information concerning each level of the rating scale (1-5), it was decided to include a selection of research findings that focused on the extremes of the scale, i.e. Strongly disagree/Disagree (1-2) vs. Agree/Strongly agree (4-5) or Never/Rarely (1-2) vs. Very often/Always (4-5).

To begin with, in relation to the first part of the questionnaire in which participants were asked to indicate their degree of familiarity with online teaching practices before the pandemic and rate their perceived level of confidence as regards their online teaching abilities (as shown below in Chart 1), 89.2% of the respondents stated that they had never (62%) or almost never (27%) taught online before the COVID-19 pandemic while half of them (51%) had received no training before their shift to emergency remote teaching (as can be seen in Chart 2).

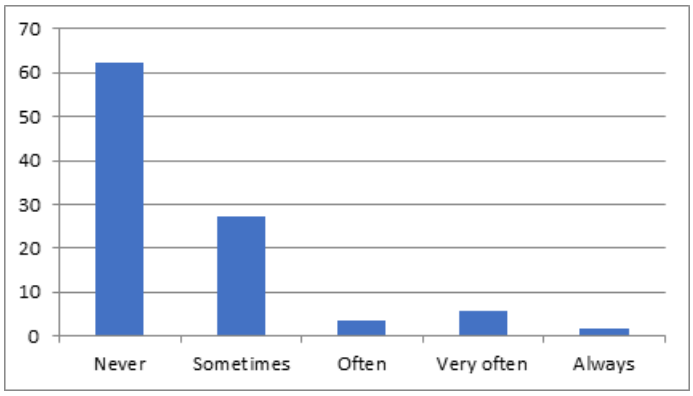

Chart 1: EFL teachers' experience with online teaching before COVID-19

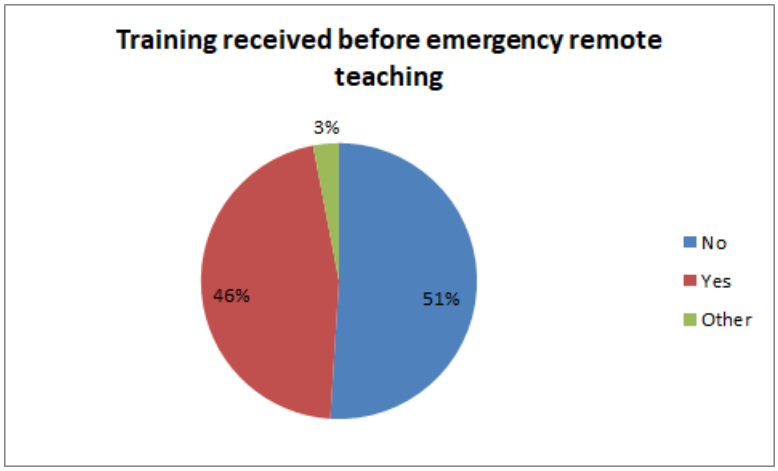

Chart 2: Training received by EFL teachers before shifting to emergency remote teaching

It is worth highlighting at this point that, as shown in Chart 3, the type of training EFL teachers reported receiving consisted mainly of material for individual training (i.e., having access to online seminars, instructional videos, etc.) (39%), while a limited percentage of them received training through their institution (19%) or by professional teacher trainers (14%) and 15% even resorted to informal training provided by colleagues or friends. Therefore, it might be assumed that despite EFL teachers' willingness to adjust to the new teaching conditions, their readiness had to be gauged and appropriately supported as remote teaching had not been an integral part of their teaching experiences before the pandemic breakout.

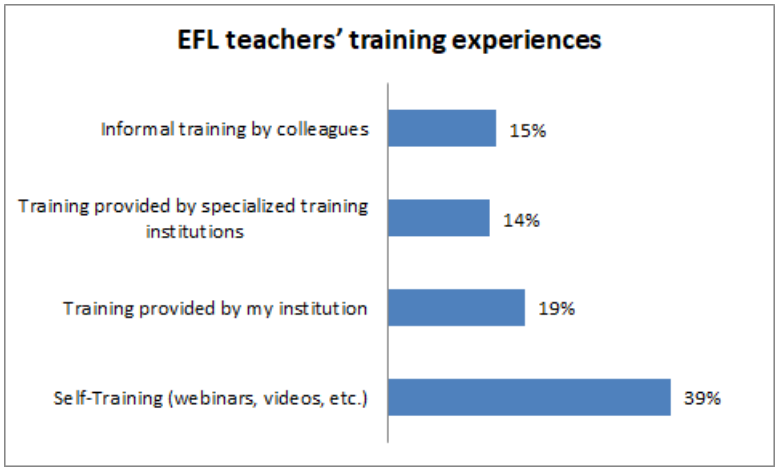

Chart 3: EFL teachers' training experiences on the use of digital tools for learning purposes

In order to explore participants' level of confidence when teaching online, their perceived online teaching abilities were investigated. It is worth bearing in mind that the great majority of respondents were asked to offer a combination of synchronous and asynchronous sessions (58%), while a limited percentage of them relied exclusively on synchronous teaching (16%) or asynchronous one (25%). As can be seen in Chart 4, most teachers expressed a high degree of confidence regarding their ability to utilise digital tools to enhance textbook-based content (Confident/Very Confident: 60%) as well as the ability to use different digital tools while teaching. (Confident/Very Confident: 52%), which could be interpreted as an indication of their familiarity with different digital tools before the pandemic (Chart 5).

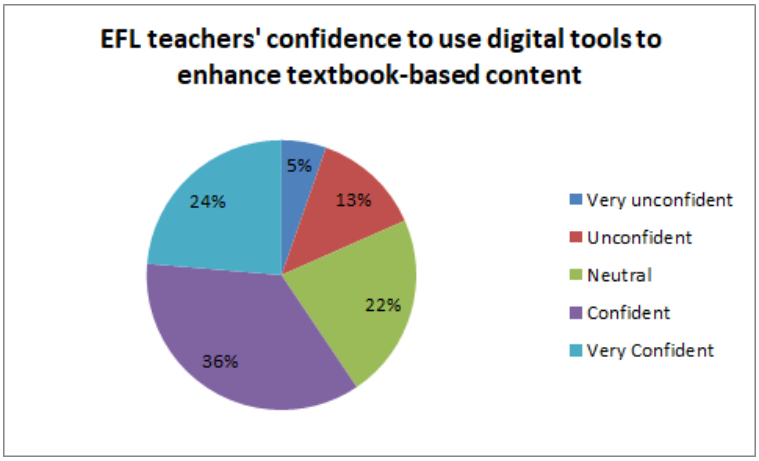

Chart 4: Confidence of EFL teachers in using digital tools to enhance textbook-based content

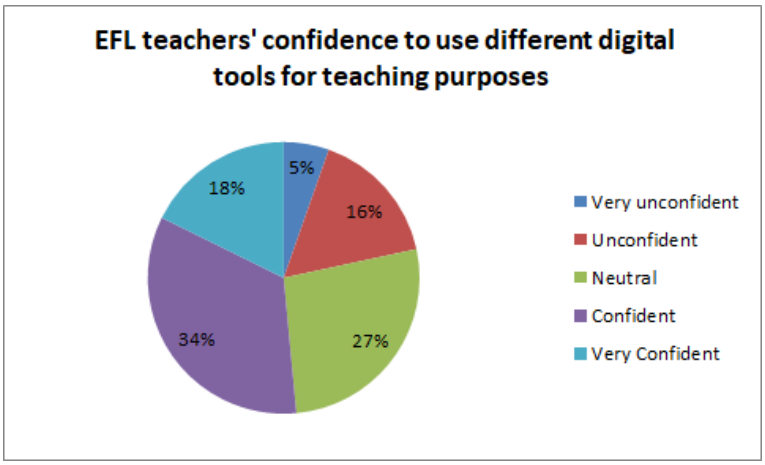

Chart 5: Confidence of EFL teachers in using digital tools

Nevertheless, such a familiarity was not treated as a prerequisite for effective online instruction since most teachers expressed their uncertainty (28%) or even lack of confidence (Unconfident/Very unconfident: 25%) when it came to implementing the existing curriculum online (Chart 6).

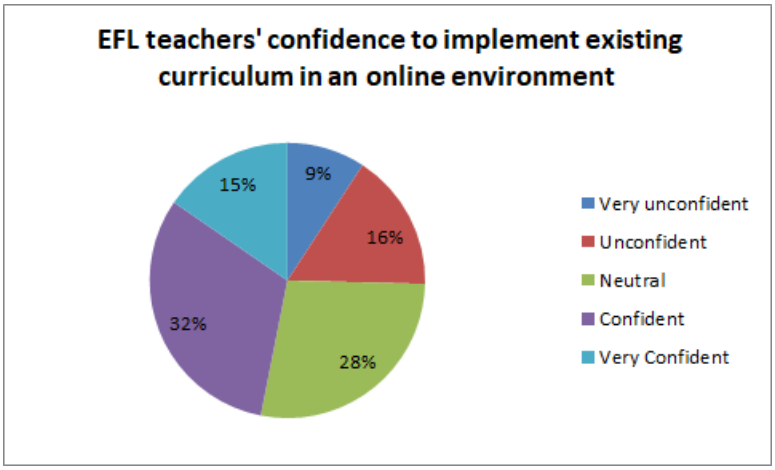

Chart 6: Online implementation of existing curriculum by EFL teachers

Moreover, as shown in Chart 7, 31% of respondents expressed uncertainty regarding the extent to which they could use different methods of online teaching including their lack of ability (34%) or limited confidence (31%) in assisting their students acquire new skills and knowledge in digital technology (Chart 8).

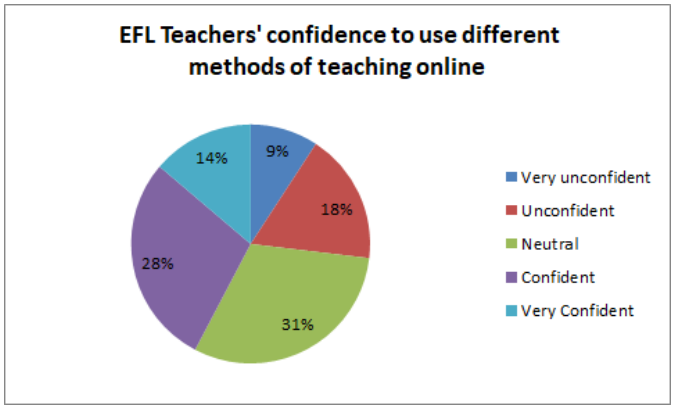

Chart 7: EFL teachers' confidence to use different online teaching methods

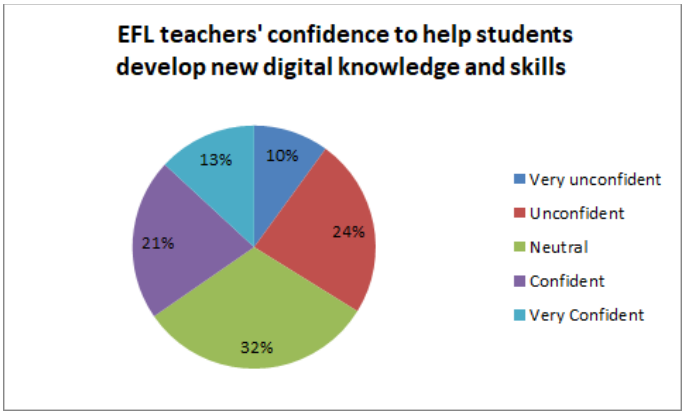

Chart 8: Enhancing EFL students' digital skills

Furthermore, as can be seen in Charts 9 and 10 below, the great majority of teachers acknowledged either their lack of confidence (Very unconfident/Unconfident: 44%) to encourage online cooperation between students or to modify instruction using online assessment techniques (Very unconfident/Unconfident: 36%).

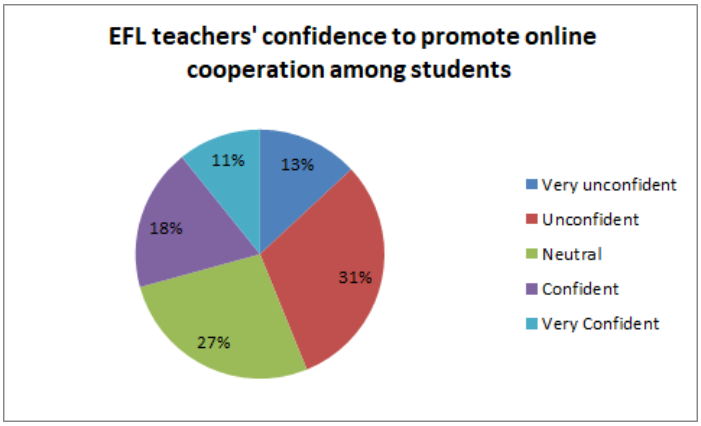

Chart 9: Promoting online cooperation among EFL students

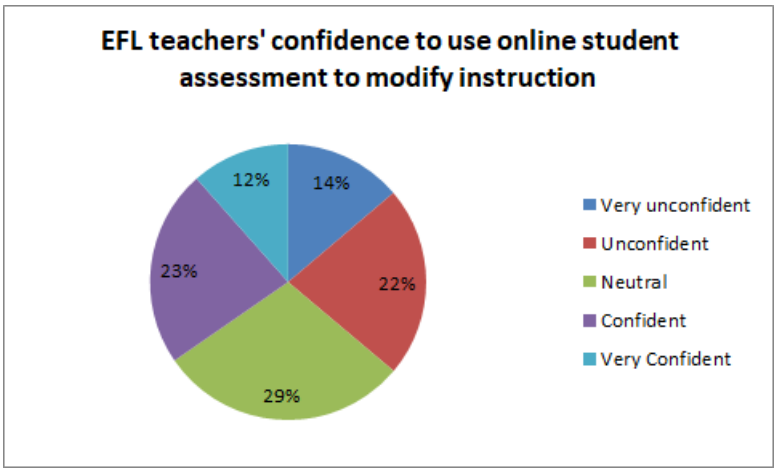

Chart 10: Using online student assessment to modify instruction

Such lack of confidence in trying out more interactive ways of teaching and assessing students while teaching online was further confirmed by EFL teachers' responses in relation to assigned online activities, the great majority of whom referred to independent study (83%) or self-assessment (65%), followed by a limited percentage of group work (28%), pair work (22%) or peer assessment (20%) as shown in Chart 11. Based on the above findings, it could be argued that, despite EFL teachers' overall knowledge of digital tools, their ability to use them for pedagogical purposes was limited or remained rather unexplored while the high percentage of expressed uncertainty with reference to different methods of online instruction could be an indicator of respondents' lack of familiarity with synchronous and asynchronous courses or even their reluctance to incorporate new methods in their everyday teaching practices.

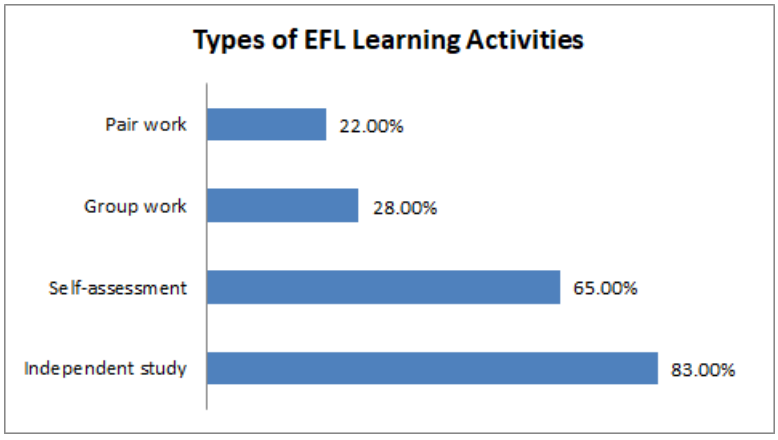

Chart 11: Types of EFL learning activities assigned during COVID-19

In the second section of the questionnaire, participants were asked to rate how satisfied they felt as regards their online teaching practices (Chart 12) and degree of guidance and support provided to them (Chart 13) along with equipment provision (Chart 14). Descriptive data analysis revealed that for a significant percentage of participants online teaching was not a positive experience (Very unsatisfied/Neutral: 64%) which could be partly attributed to the fact that the great majority of educators were not provided neither with the necessary guidance and support (Very unsatisfied/Unsatisfied: 50%) nor with the appropriate equipment (Very unsatisfied/Unsatisfied: 75%). Furthermore, such emotions could be partly explained by the emotional pressure and sense of

uncertainty experienced by most individuals during the pandemic and the limited or non-existent experience that EFL teachers had with online teaching practices prior to the pandemic.

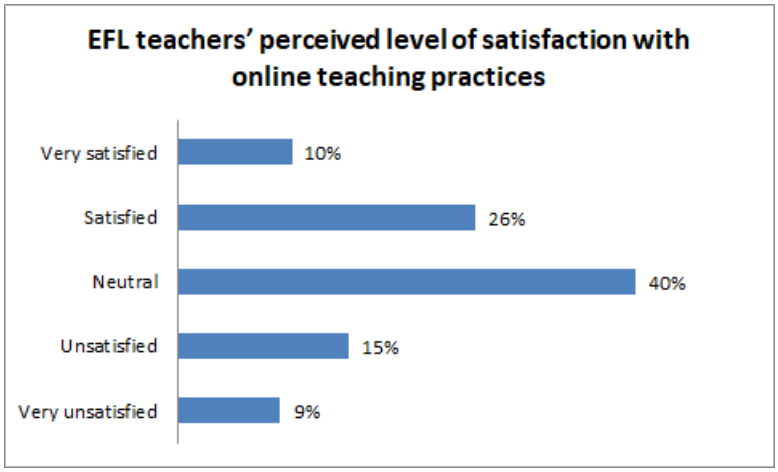

Chart 12: Online teaching practices during COVID-19

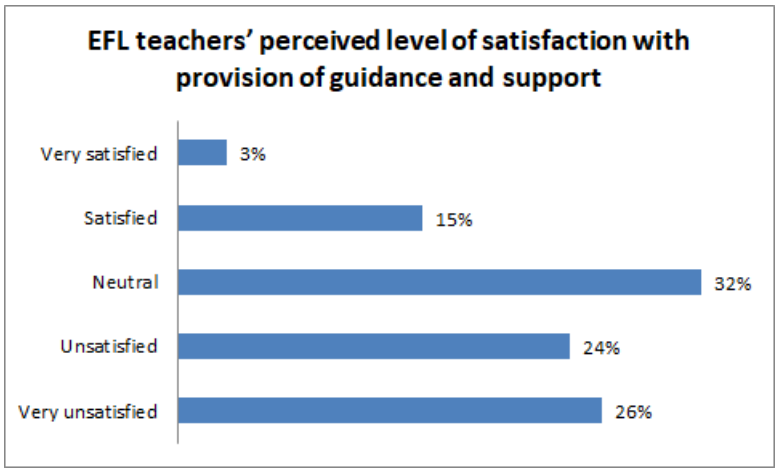

Chart 13: EFL Teachers' perception of guidance and support during COVID-19

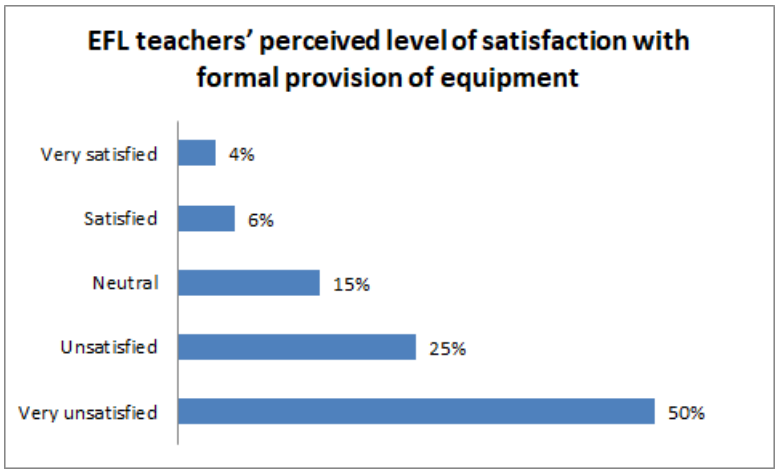

Chart 14: Formal provision of equipment during COVID-19

Despite such an expression of negative emotions, a high percentage of EFL teachers (72%) expressed a positive attitude towards using some of the online resources when returning to their face-to-face lessons and stressed the need for more professional training in online teaching practices (70%). As can be seen in Chart 15 below, when asked to identify their training needs in order of priority, there was a strong preference among participants for feasible and realistic suggestions on techniques appropriate when teaching online (75%), followed by practical demonstrations on transforming an onsite lesson into an online one from a pedagogical perspective (66%), the practical aspects of online assessment (65%), technical expertise in using different tools (55%), courses offered online on specific teaching techniques (51%), and participation in professional development communities or events (39%).

These findings could be treated as an indication of EFL teachers' willingness to do their best to teach effectively during the pandemic, despite feeling more confident and competent when having face-to-face contact with their students.

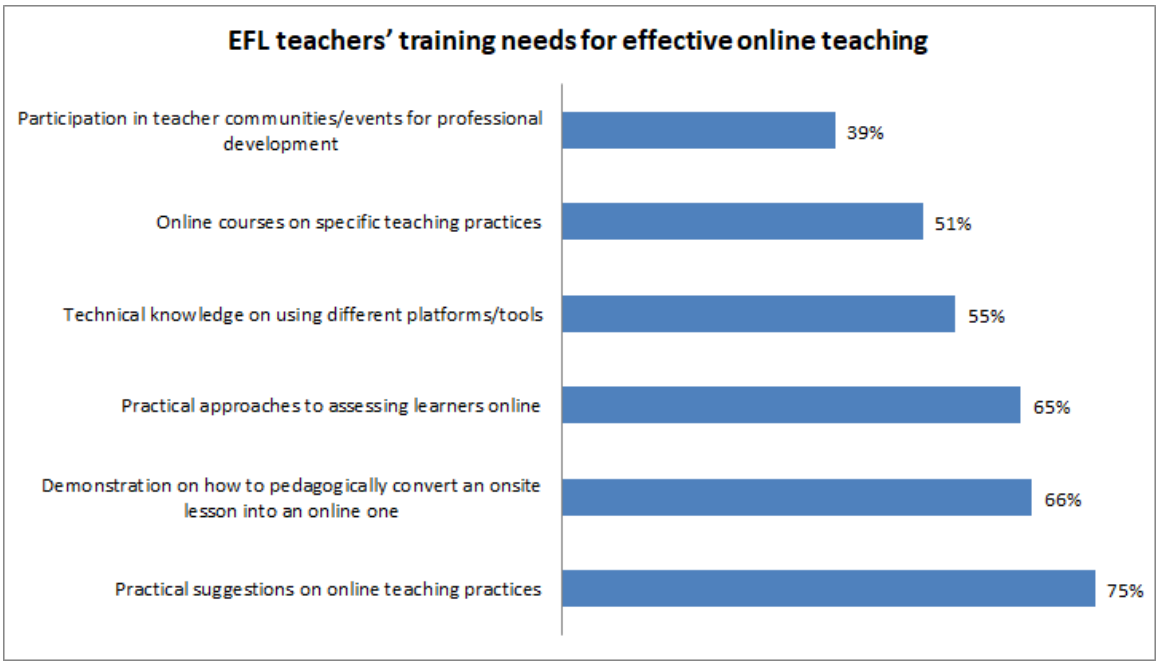

Chart 15: EFL teachers' training needs for effective online teaching

There is no doubt that nearly every aspect of our society was affected by the COVID-19 pandemic, thus everyone had to adapt and learn how to juggle their personal and professional lives in a new way. This article presented a selection of the results of our inquiry on how English language teachers in Greece during the COVID-19 school closures in March 2020 adapted to online instruction. Our research questions focused on how EFL teachers in all areas of education dealt with difficulties in these uncharted areas and what variables might explain how they did so. Based on their responses, our participants provided insightful information that may be utilised to inform future training sessions in various teaching disciplines. These insights can help participants identify their online teaching practices' areas of strength and weakness.

Data collected in this survey could be considered to be a fairly accurate representation of the reality of language instructors as regards their actions to transfer their teaching online, the training shortages and infrastructure issues they faced alongside the experienced difficulty of staying afloat while developing the necessary skills for students to be digitally literate. More specifically, according to the descriptive data analysis, teachers expressed confidence when it came to using digital tools for personal purposes, but hesitation when it came to utilising them for pedagogical purposes, including

work in groups, provision of feedback, online assessments, and so on. The findings further indicated that despite the fact that a majority of teachers held postgraduate degrees, indicating their high level of qualification, they were hampered by their inability to use technology and digital tools effectively for teaching purposes, unaware of the fact that the key difference for success with digital learning is identifying the digital competencies that teachers need and providing training to help them acquire those competencies. (Carrier & Nye, 2017, p. 209 cited in Giannikas *et al*., 2022). As a result of the lack of training, the transfer from face-to-face to online teaching was limited, and teachers lost self-confidence and even disbelieved in the process and results of their new professional norm. Teachers stated that they were familiar with a range of digital tools, but were hesitant when it came to using them for teaching purposes within a socially meaningful, communicative context.

It is worth highlighting at this point that the social and communicative elements of any language lesson, in whatever form, are not only vital in a language classroom, but are also essential when humans are isolated and communication is restricted. As teachers lacked understanding of what teaching approaches would work best in a remote learning environment to foster student collaboration, their students' communication and collaboration was compromised. Furthermore, the findings indicate that the lack of available resources also caused distress among EFL teachers, as most of the respondents believed that using EFL websites and creating their own materials was necessary in order to work online, considering this pedagogical practice to be consistent with remote teaching. Confusion existed regarding textbooks and their application to online environments. It may be because of this confusion that most EFL teachers turned to online resources. Nevertheless, such a reaction can be considered a positive outcome, since most teachers indicated that they would use these resources when returning to face-to-face instruction.

Based on the findings of the present study, we can conclude that, when rushed into online training, we cannot expect teachers to immediately alter their teaching strategies, materials, or even pedagogical viewpoints. "Normal" no longer exists. To completely avoid turmoil would be unfeasible. However, as the facts have shown, in order for teachers to obtain the confidence they need to function in a world that is always changing, they must receive the proper training and become digitally literate. Teachers, administrators and other education support workers may have their job streams changed as they learn and test out these new approaches. These changes don't have to be seen negatively because they might inspire hope that the education sector is moving in the right direction aiming for something more solid and of a high-quality. Although the findings of this survey indicate that Greek EFL educators understood that teaching online and onsite differs significantly, it should be stated that online education also adheres to the principles of good quality education and, thus, there is no fundamental difference between the teaching approaches in question.

6. Conclusion

It appears from the findings of this study that there is a need for a greater amount of training and knowledge regarding teachers' digital literacy in Greece in order to ensure a smooth transition to the new norm in language education. Due to the lack of or limited digital literacy competence among practitioners within the Greek context, doubts are raised about the effectiveness of remote/online teaching functions when they are handled in the manner that they were during the COVID-19 crisis. In addition to influencing the way educational leaders support practitioners and evaluate their online teaching, the research described above sheds light on the present state of teaching in Greece, indicating an inability to prepare beyond what is comfortable and an inability to understand digital literacy among teachers. Moreover, teacher educators, policy makers, and teachers alike should clarify objectives related to online learning and address relevant competencies required for effective use of digital tools during further partial closures and reopenings of schools. When faced with unprecedented challenges such as the lockdown in 2020, it is important to consider specific factors in the areas of teacher competence, digital literacy, and teacher education. In addition, as indicated by

the findings of the present study, pre- and in-service teacher training programs are needed to develop teachers' online teaching competencies. The chance for teacher education cannot be missed when it comes to preparing practitioners for the new digital era.

Although this study reveals promising results, it poses a number of challenges and limitations that we hope will be overcome in future studies. Having said that, it is worth acknowledging the fact that since EFL teachers made their own interpretations to questionnaire items and reported their attitudes and beliefs to the best of their conscious knowledge, we must be wary of the limitations of opinion data. As in other questionnaire-based studies, at best, findings indicate trends in perceived remote teaching attitudes and abilities. It should also be noted that other attitudes that were not included in the questionnaire might have been expressed, or even that the reported ones might have been experienced more or less often than participants indicated. Having said that, the data analysis and interpretation processes were carried out bearing in mind the inherent limitations of the instrument and the difficulties some respondents may had "in understanding the questions and in forming an 'inner picture' of their own answers" (Oppenheim, 2001, p. 121). On the other hand, the fact that a large number of responses were collected, following a standardised set of procedures, could add to the validity of the present findings. In other words, given the high internal reliability of the research instrument that was further attested through its Cronbach's Alpha coefficient estimates (α=0.87), the collected data could be considered as reflective of the general kind of challenges, feelings of dissatisfaction and uncertainty EFL educators experienced while delivering synchronous and asynchronous lessons during the first phase of the pandemic.

Schools' failure to respond to unforeseen circumstances and the rushed remote teaching solution has made it imperative for teacher education to be aligned with all the new requirements of the digital era. To equip language educators with the confidence and effectiveness they need, we need to focus on preparation, digital awareness, and inclusive training processes. In order to achieve this change, teacher education must shift from a technical paradigm to a more emancipatory underpinning philosophy. As a community, we learned valuable lessons during the pandemic, and we need to leverage these lessons to prepare teachers for future crises. Teachers in Greece and throughout the world can begin to embrace the constructs mentioned in this paper by investing in skill-based programs in order to tackle any future crisis. COVID-19 has disrupted the lives and safety of millions while also drawing attention to systemic inequalities that must be addressed. However, we must not forget that the experience of the pandemic has the potential to bind all nations together or to fragment them.

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Appendix 1

1st April till 30th May 2020

https://docs.google.com/forms/d/e/1FAIpQLSfAWizub856QxCX_k7bjBKwBKE5UMat5cfYKdxJ2-loaB2CmQ/viewform?usp=sf_link

Language Educators Working Online during the COVID-19 Pandemic

This survey is part of an international project intended for language teachers, teacher trainers and university lecturers who were obliged to move from face-to-face teaching to teaching online. This research project aims to gain understanding of whether and to what extent language educators from various institutions and sectors felt ready to move to online teaching, given COVID-19 and gauge their training needs. Your responses will be confidential. If you choose to supply your email address for further participation, your responses will be de-identified for any publication or dissemination purposes. You can withdraw your data at any time by contacting XXX at XXX.

*Please note:
-The survey will only take about 15 minutes to complete.
-You will be asked questions about your teaching experiences during the COVID-19 pandemic.

-You can withdraw at any time if you are not comfortable answering any of the questions.
-Your participation will remain completely anonymous.
-The data collected will be analyzed by the researchers mentioned below and only for research purposes related to teaching during the COVID-19 pandemic.

Please feel free to share this questionnaire with your colleagues.
We appreciate your input and time spent responding to the survey questions.
The researchers,
Dina Tsagari (OsloMet, Norway), Jenny Liontou (NKUA, Greece) & Christina Giannikas (CUT, Cyprus)

A. DEMOGRAPHIC INFORMATION

In this first section, we would like to know more about you and your teaching background.

1. How do you identify your gender?*
- Female
- Male
- Prefer not to say

2. Which country are you working in now?*

_____

3. Which sector of education do you work for?*
- Private
- Public

4. Where do you work?*
- Primary school
- Secondary school
- Higher/Further education
- Language school/institution
- I am a freelance teacher
- I am a freelance teacher trainer
- Other:

5a. What language do you teach/train teachers in?*
- English
- French
- German
- Spanish
- Italian

- Chinese
- Greek
- Other:

5b. You are teaching/training in this language as*
- First language
- Second/Foreign language
- Third/Multiple language
- Language for Academic/Special Purposes
- Other:

6. How long have you been teaching/training in this language?*
- Less than two years
- 2-5 years
- 6-10 years
- 11-20 years
- More than 20 years

7. What is your highest qualification/certification?*
- BA
- CELTA Certified
- DELTA Certified
- PGCE (Qualified Teacher Status)
- C2 Language Qualification
- MA/MSc
- PhD
- Other:

8a. Have you ever taught online before COVID-19?*
- Always
- Very often
- Often
- Sometimes
- Never

8b. Have you ever taught blended courses before? ('Blended': combination of online and face-to-face instruction)*
- Always
- Very often
- Often
- Sometimes
- Never

9. Have you ever received training on how to teach online?*
- Yes
- No
- Other:

10. If yes, what kind of training was it? (You can choose more than one answer)
- Self-training (i.e. attending webinars, watching videos, reading online articles, etc.)
- Training provided by my institution
- Training provided by specialised training institutions
- Informal training by colleagues
- Other:

11. Does anyone else at home work/study remotely during the COVID-19 crisis?*
- Yes
- No

12. What device do you use when working from home? (Choose as many as you use)*
- Laptop
- Desktop/PC
- Tablet/iPad
- Mobile Phone
- Other:

B. ONLINE TEACHING

In this section, we would like to know more about your online teaching, the tools and approaches you use.

13. As a result of COVID-19, did you have to move your face-to-face classes to an online platform?*
- Yes, all of it.
- No, none of it.
- Yes, some of it.

14. What percentage of your teaching do you do online during the COVID-19 pandemic? Please provide a whole number, e.g. 20%, 30%, etc.*

_____

15. Which online platform/Learning Management System (LMS) do you use? (Choose as many as you use)*
- Moodle
- Itslearning
- Canvas
- Blackboard
- Google Classroom
- Microsoft Teams
- Zoom
- Skype
- BigBlueButton
- GotoMeet
- Webex
- Google Meet
- Edmodo
- Messenger
- Padlet
- Wikis
- Email
- Adobe Connect
- Open edX
- Showbie
- AnyMeeting
- Other:

16. To what extent did your school/institution decide that you need to transition your face-to-face courses/classes to an online platform?*
- It was mandatory.
- It was not mandatory.

17. How many days were you given to prepare your courses/classes to go online?*

_____

18. Please tick what is true for you. You can select more than one option (1: To a lesser extent-5: Very confident). "I am confident in my ability to..."*
- implement existing curriculum in an online environment.
- use different methods of teaching online.
- use different digital tools for teaching purposes.

- help students develop new digital knowledge and skills.
- promote online cooperation among students.
- manage online cooperation among students.
- use digital tools to enhance textbook-based content.
- use online student assessment to modify instruction.
- implement existing curriculum in an online environment.
- use different methods of teaching online.
- use different digital tools for teaching purposes.
- help students develop new digital knowledge and skills.
- promote online cooperation among students.
- manage online cooperation among students.
- use digital tools to enhance textbook-based content.
- use online student assessment to modify instruction.

19. Do you encourage your students to engage in any of these activities when you teach online? (Choose as many as you use)*

- Pair work
- Group work
- Independent study
- Self-assessment
- Peer-assessment
- Other:

20. When teaching online, is your preference synchronous or asynchronous? *Synchronous (using video-conferencing systems, such as Zoom, Skype, Adobe connect in real-time) *Asynchronous (using tools such as discussion forums, wikis or e-mail in non-real time)*

- Synchronous
- Asynchronous
- A combination of the two
- Other:

21a. Have you observed any changes in your practice while teaching online?*

- Yes
- No

21b. If yes, please give some examples.

_____

22a. Does your online teaching practice reflect your classroom teaching practice?*

- Always
- Very often
- Often
- Sometimes
- Never

22b. If so, how?

_____

23. Do you assign any homework now that you teach online?*

- Always
- Very often
- Often
- Sometimes
- Never

24. Do you assign the same amount of homework you assigned before the shift to online teaching?*

- Always
- Very often
- Often
- Sometimes
- Never

25. What kind of homework do you normally assign? Please choose as many as you use. "I assign homework from..."*
- an e-learning platform or learning websites.
- materials I design.
- students' courseware material.
- authentic material, such as newspapers and magazines.
- Other:

C. RESOURCES AND FEEDBACK

In this section, we would like to know more about the resources and feedback you use in your online teaching.

26. What resources did you use when making the transition to online teaching? (You can choose more than one)*
- I have used my own ideas.
- I have used resources I found online.
- I have sought advice from someone with more online teaching experience.
- I have been working closely with some of my colleagues.
- I have received official guidelines/training from my institution.
- Other:

27. Did you use online resources before COVID-19?*
- Always
- Very often
- Often
- Sometimes
- Never

28a. Do you plan to use any of the online resources when you return to the classroom?*
- Yes
- No
- Maybe

28b. If so, which ones?

_____

29. What type of feedback do you give your students when you teach online? (Choose as many as you use)*
- Grades/points/letter grades
- Oral feedback to individual students
- Written comments to individual students
- Video feedback to individual students
- Collective feedback to groups of students
- Involve students in giving feedback to each other
- Other:

D. TRANSITION FROM ONSITE TO ONLINE TEACHING

In this section, we would like to find out more about how you handled the shift from onsite to online.

30. Have you had a positive experience in the transition to the online mode of teaching and learning?*
1: Strongly Disagree …. 5: Strongly Agree

31. The most positive aspects of transitioning to an online mode of teaching have been...*

_____

32. The main challenges of transitioning to online teaching have been...*

_____

33. Briefly describe the most important changes you had to make as you moved to an online mode of teaching.*

_____

E. ONLINE SUPPORT

In this section, we would like to know more about the readiness of the Educational/Institutional Leadership in your respective countries to respond to online teaching in COVID-19

34. The Educational Leadership (e.g. Ministry of Education/University/Institution) in my context was ready for the education emergency.*

1: Strongly Disagree …. 5: Strongly Agree

35. The Educational Leadership (e.g. Ministry of Education/University/Institution) has provided detailed guidance and support for online teaching in my education sector.*

1: Strongly Disagree …. 5: Strongly Agree

36. The Educational Leadership (e.g. Ministry of Education/University/Institution) has provided language educators with the necessary equipment to carry out online teaching.*

1: Strongly Disagree …. 5: Strongly Agree

37. Please select the statement that is true for you. You can select more than one. "Specifically in our institution..."*

- a strong vision towards online learning is present.
- professional development for online learning is supported.
- specific objectives of the implementation of online learning have been set.
- the available ICT infrastructure is taken into account.
- attention is paid to the processes of changing to online learning.
- a professional development strategy towards online learning has been adopted.
- very little has been done to support us in shifting to online teaching
- Other:

F. STUDENT RESPONSE

In this section, we would like to know more about the effects of the educational crisis on your students.

38. My students have the necessary equipment to support themselves during their online learning period (i.e. laptop, quality internet connection, etc.).*

1: Strongly Disagree …. 5: Strongly Agree

39. My students were willing to attend online lessons.*

1: Strongly Disagree …. 5: Strongly Agree

40. My students were provided with guidelines on accessing and using online platforms.*

1: Strongly Disagree …. 5: Strongly Agree

41. My students are familiar with online tools for educational purposes.*

1: Strongly Disagree …. 5: Strongly Agree

42. My students are as cooperative online as they are in the classroom.*

1: Strongly Disagree …. 5: Strongly Agree

43. My students have positive learning outcomes via online education.*

1: Strongly Disagree …. 5: Strongly Agree

G. TEACHER EDUCATION NEEDS

In this final section, we would like to know about your training needs in online teaching.

44. Please select the statement that is true for you. You can select more than one. "Before COVID-19, I used to..."*
- attend teacher training webinars.
- search online for ideas to improve my teaching practices.
- participate in eTwinning, Erasmus+ exchange programs.
- participate in teacher communities for professional development in educational technology.
- try out various digital tools for classroom use.
- Other:

45. Do you feel you need training in online teaching?*
- Yes
- No
- Maybe

46. If yes, what do you feel your training needs are? (Choose as many as you need)
- Technical knowledge on using different online platforms.
- Online courses on specific teaching practices.
- Practical approaches to assessing learners online.
- A demonstration on how to pedagogically convert an onsite lesson into an online one.
- Practical suggestions on online teaching practices.
- Participation in teacher communities/events for professional development.
- Other:

47. Who would you prefer to be your trainers?
- Ministry of Education
- Certified trainers
- Head teachers/directors
- University faculty members
- Educational consultants
- Other:

FOLLOW-UP PARTICIPATION

We will be doing follow-up interviews to find more about your online experience and how you have or still coping with the challenges of teaching under COVID-19 pandemic.

48. Would you be willing to participate in the follow-up study?*
- Yes
- No

49. If yes, please provide your email address and we will get in touch with you soon.

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Technologies in Second Language Formative Assessment: A Systematic Review

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The present article considers the types of technologies used in second language formative assessment (L2FA) by producing an integrative Systematic Review (SR) of articles, books and chapters published from the year 2000 to 2020. It is informed by methodology procedures followed in other SRs. The study follows a qualitative descriptive research approach. The analysis reveals the significance of digital tools in L2FA practices, the various technologies used in L2FA, their use in different language aspects, as well as the input and the extent they have in L2FA. The aim of the paper is first to highlight the impact of the use of technologies in L2FA application, then to identify the main trends and issues that are related to the use of technologies in L2FA, and finally to shed light on the current research conducted on the matter.

Key words: Second Language, Formative Assessment, Technologies, Computer Assisted Language Assessment, Systematic Review

1. Introduction

This integrative Systematic Review (SR) of articles, books and chapters published from 2000 to 2020 focuses on the types of technologies used in Second Language Formative Assessment (L2FA). According to the literature, online FA applications have been mostly applied and studied by researchers in the area of mathematics and science (Fuller & Dawson, 2017; Mitten Jacobbe, & Jacobbe, 2017). Nonetheless, a number of researchers have begun to pay attention to the use of technology-facilitated FA in second or foreign language teaching (Kiliçkaya, 2017; Kent, 2019). The aim of the present paper is first to highlight the impact of the use of technologies in L2FA application, then to identify the main trends and issues that are related to the use of technologies in L2FA, and finally to shed light on the current research conducted on the matter.

Technology, in both language teaching and language assessment, can be traced back to the 1960s (Chappelle & Voss, 2016). The history of Computer-Assisted Language Assessment or Computer-Assisted Language Testing (CALT) follows the history of language assessment, which is mostly about online language testing. This involves the development of Computer-Based Tests (CBTs) and Computer Adaptive Tests (CATs). Since the expansion of the personal computer in the late seventies and early eighties (Godwin-Jones, 2001), there have been many computer programmes developed

for L2 electronic testing. Mechanisms built into Web courses management systems such as WebCT, Blackboard, and Moodle facilitate testing over the Internet (Goldwin-Jones, 2001). Testing programmes developed by institutions or instructors to tailor particular needs such as IELTS, TOEFL, QPT, GCSE, Nepton (New English Placement Test Online) (Papadima-Sophocleous & Alexander, 2007; Papadima-Sophocleous, 2007, 2008, 2012) also exist in both pen-and-paper and /or in electronic form. It is, therefore, evident that from early scoring devices to the latest Computer Adaptive Tests and other Internet based assessment mechanisms, computers have come to play a major role in language testing. It is also evident that there has been a dominant focus in the area of testing and examination in Second Language (L2) Learning (Vassiliou, 2019, p. 7); Since 2000 however, many researchers dedicated their work on Second Language Learning Formative Assessment (FA) (Black & William, 2009; Black & William, 2018; Rea-Dickins & Gardner, 2000; Tan, 2013; Tsagari & Michaeloudes, 2013; Vogt & Tsagari, 2014).

Formative assessment focuses on the process of learning, involves student, peer and instructor involvement and aims to monitor learning and learning processes in order to improve them. As a result, alternative computer-based assessment formats started being used, not just for testing, which is mostly a summative form of assessment, but also for formative assessment purposes. E-assessment tools, like online quizzes, can be used for FA purposes and can provide comprehensive and on-time, instant and effective feedback to students, and can monitor their understanding (Baleni, 2015). According to the literature, such e-tools include Turnitin, Grademark, Electronic Feedback Software, Questionmark Perception, WebCTConnect, MarkTool, Markin, Moodle Quiz, Markers Assistant (Heinrich, Milne & Moore, 2009), and Google Docs where teachers and students can discuss and exchange ideas synchronously on a shared document (Reimann, Halb, Bull & Johnson, 2011). Research also dealt with the importance of gamified quizzes and online tools like Socrative, Kahoot, Eclipse, Quizlet, Edmodo, Padlet, Storify, and Google Forms, Remind 101, as FA tools in language learning, which can be used during the learning process, and give instant feedback to students (Vassiliou, 2019, p. 24); in order to modify and improve their curriculum design, content, and their student's learning experiences and learning (Heinrich et al., 2009; Reimann et al., 2011).

Other e-applications, such as the Online Peer Feedback (OPE) application, e-journals, e-reflective journals, e-portfolios, e-rubrics, e-can-do lists, Google Forms and e-artifacts can also be used for FA purposes (Vassiliou, 2019, pp. 21-22); These can offer opportunities to students for self and peer feedback (Rosalia & Llosa, 2009; Papadima-Sophocleous, 2017). Responses from such tools assist teachers in their planning of subsequent lessons according to students' understanding. Technology enables both the teacher and the learner to reach their L2 expected outcomes with the use of different tools (Perera-Diltz & Moe, 2014). Technology-enhanced FA can improve students' progress and can accommodate an assessment environment, an integral part of the learning environment, that promotes authentication, real-life settings and critical thinking for students.

Preliminary research revealed that, although some types of literature review papers have been written about the use of technologies in second language formative assessment (L2FA), there is no systematic review (SR) as yet to identify, select, synthesise primary researcher studies, and give a comprehensive overview of the research conducted so far (Oakley, 2012). The present SR paper addresses this gap as it investigates the types of technologies used in L2FA explored in the reviewed studies and their impact in L2FA from 2000 to 2020.

The aim of the present article is first to highlight the impact of the use of technologies in L2FA application, then to identify the main trends and issues that are related to the use of technologies in L2FA, and finally to shed light on the current research conducted on the matter. The study comes to fill the gap that exists by giving a comprehensive overview of the research in language L2FA activities with the use of technologies in the last 20 years.

In order to conduct the SR of studies focussing on technology-enhanced L2 FA, the following research questions were identified:

1. What types of technologies were used for L2FA purposes?
2. What was the language focus formatively assessed with the use of technologies?
3. What languages, educational levels, and participants were involved in the studies?
4. What were the research purposes and outcomes?
5. What was the geographic distribution of L2 FA studies?
6. What suggestions were made by authors for further research in the area?

2. Method, analysis framework and coding

2.1. Method

The qualitative descriptive methodology used was informed by other SRs as in Crompton, Burke, and Lin (2018). A coding procedure was applied to collect and analyse data (see Saldaña, 2015). The themes were defined by the research questions and based on inclusion and exclusion criteria. A search was conducted in databases and Web search engines like, EBSCOhost, ERIC, ResearchGate, Google Scholar. The study selection and the search strings were based on the ones used in Vassiliou's master dissertation (2019). The study selection consisted of applying search strings from the above bibliographical databases described. The search strings were chosen as they are the ones mostly used regarding the use of technologies in L2 FA:

a) (Formative Assessment) AND (Second Language Teaching) OR (Second Language Learning) AND technologies OR CALL OR technology enhanced
b) (Classroom Assessment) AND (Second Language Teaching) OR (Second Language Learning) AND technologies OR CALL OR technology enhanced
c) (Alternative Assessment) AND (Second Language Teaching) OR (Second Language Learning) AND technologies OR CALL OR technology enhanced
d) Portfolio Assessment AND (Second Language Teaching) OR (Second Language Learning) AND technologies OR CALL OR technology enhanced

The following inclusion/exclusion criteria were used:

a) Inclusion:

1. published between 2000-2020;
2. reviewed journal articles, or conference proceedings papers, short papers, book chapters, books, handbooks, PhD or Master theses, or reports;
3. reported technology-supported L2FA practices;
4. presented such practices in primary, secondary or tertiary context;
5. presented quantitative, qualitative or mixed research approaches.

b) Exclusion:

1. not published between 2000-2020;
2. hosted in web pages freely accessed through university accounts where only abstracts were available;
3. composed of only one page (abstract papers), posters, and tutorial slides;
4. duplicated publications by the same author (similar title, abstract, results, or text). In such a case, only one is included in this review;
5. written in languages other than English.

The initial search process and the use of inclusion/exclusion criteria was based on the ones used in Vassiliou (2019): The initial search resulted in the identification of a total number of 15,787 research publications. The inclusion/exclusion criteria process which followed took this number down. The exclusion criterion 1, eliminated 9,200 publications since they were not published in the chronological period 2000-2020; thus, 6,587 publications remained. From criterion 2, 2,531 were removed since they dealt with FA generically and not related to L2FA and technologies. The exclusion criterion 3 eliminated 2,458 publications since they were not freely accessed and only abstracts could be accessed by the researcher (Vassiliou, 2019, p. 31).

The remaining 1.598 studies were further evaluated to ensure that they fulfilled the other inclusion/exclusion criteria. Moreover, 1,050 studies were also removed according to exclusion criterion 4, since they were composed of only one page. The exclusion criterion 5 eliminated another 336 publications since they were duplicated. Moreover, according to criterion 6, 178 publications were removed since they were written in languages other than English (Vassiliou, 2019, pp. 31-32). The search process and the final number of publications selected and included in the present SR can be seen in Figure 1.

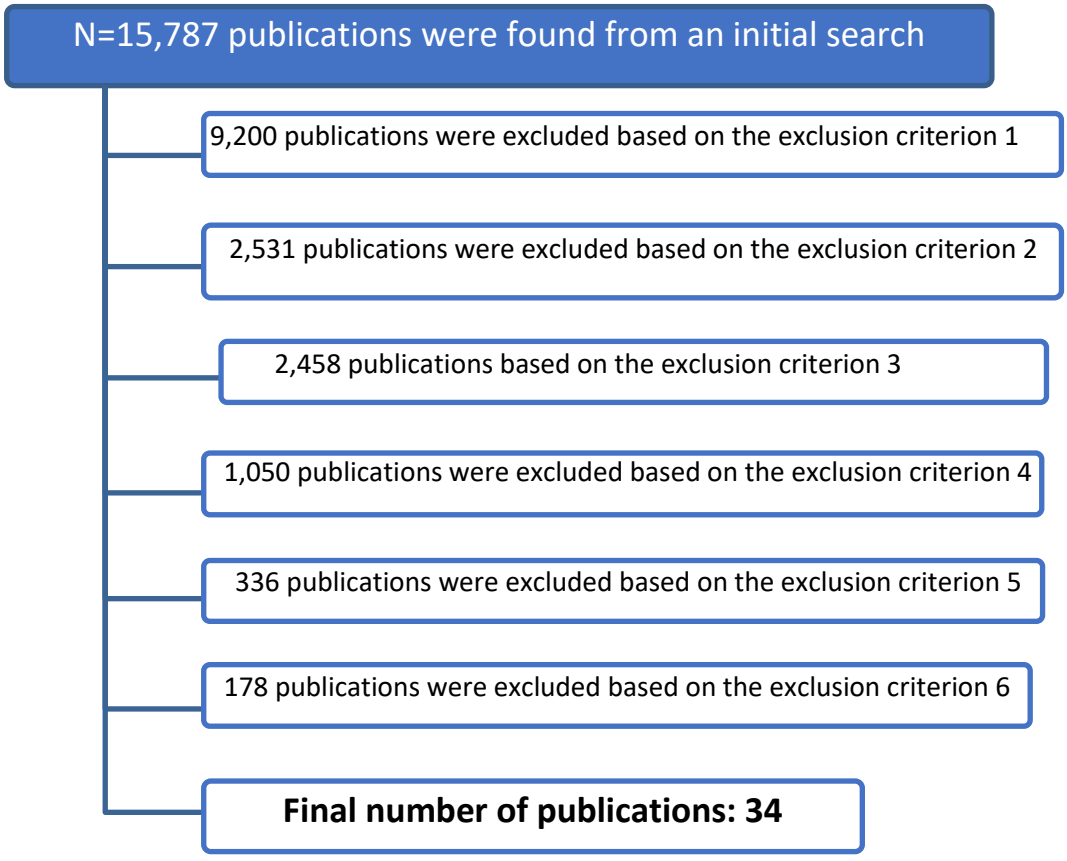

Figure 1. The final number of publications included in the Systematic Review

2.2. Analysis framework and coding

The tentative research questions identified framed a combination of predetermined and emerging codes (Creswell, 2009, p. 187), which emerged from themes used in earlier similar SRs (Crompton et al, 2017; Spolaôr and Benitti, 2017). The main categories identified and coded were the following: types of technologies, language focus formatively assessed with the use of technologies, participants,

educational level, purpose and outcomes, the geographic distribution of the use of technologies LL FA studies, and what suggestions made by authors for further research in the area.

3. Results and Discussion

3.1. Types of technologies used in L2FA

The review revealed that a variety of technologies are being used in L2FA (see Figure 2). This indicates that technologies are considered as useful by L2FA practitioners and researchers. The popularity of technologies indicated in Figure 2 does not come as a surprise as they are 'assessment friendly' and can be applied to different student levels. According to the information on Figure 2, 22% of the studies focused on the use of E-portfolio in L2FA practices. They are consistent with earlier research findings: Cummins & Davesne, (2009) mention the significant benefits of using an E-portfolio rather than a paper and pencil-based portfolio; some of them are interactivity, wide storage of media files, cooperative learning and artefacts (Vassiliou, 2019, p. 67). In their study "Assessing pre-service English language teachers' learning using E-portfolios: Benefits, challenges and competencies gained", Kabilan & Khan (2012) state that E-portfolio can be considered as an important formative tool that provides peer feedback and stimulates students' creativity (Vassiliou, 2019, p. 75). One of the biggest advantages of implementing an E-portfolio discussed in the literature is drafting, editing, and revising (Babaee, & Tikoduadua, 2013).

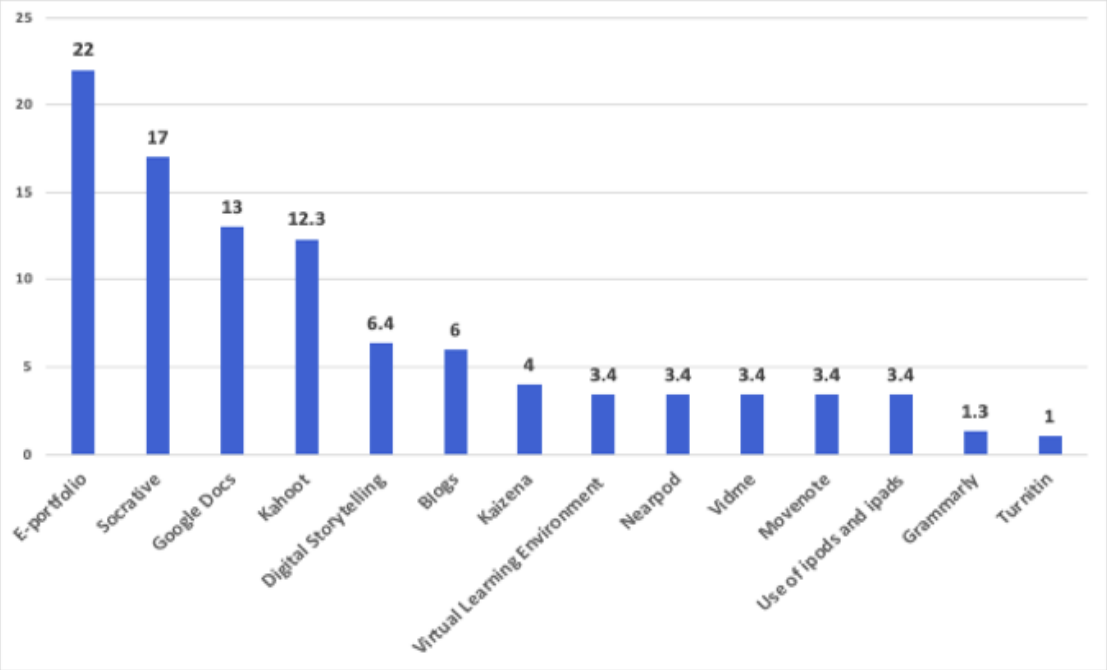

Figure 2: Types of technologies used for L2FA purposes

As indicated in Figure 2, other technology tools were also used for FA purposes. E-portfolios were followed by Socrative application with 17%, Google Docs with 13%, Kahoot with 12.3%, Digital Storytelling with 6.4 %, Blogs with 6%, Kaizena with 4%, Nearpod with 3.4%, Vidme 3.4%, Movenote with 3.4%, iPods and iPads with 3.4 % Virtual Learning Environment with 3.4%, Grammarly with 1.3 % and Turnitin with 1%.

Overall, researchers reported the use of fifteen different types of technologies. This indicates that technologies are considered as useful by L2FA practitioners and researchers. This provides useful information to the scholarly community. The popularity of technologies indicated in Figure 2 does not come as a surprise as they are 'assessment friendly' and can be applied in different student levels. However, the results indicate that the percentages of use of technologies in general, and of each type of technology in particular are still quite low. All stakeholders should be encouraged to further explore the use of technologies in L2FA and make the most of their affordances. As Pellerin (2012) has stated, digital tools can improve students' performance and can enable teachers to integrate better tools to serve L2FA purposes (Vassiliou, 2019, p. 49); It is reported that learners benefit from receiving computer formative feedback and their speaking and writing skills improve (Radford, 2014).

3.2. Language focus formatively assessed with the use of technologies

As displayed in Figure 3, 68% of the reviewed publications focused on traditional aspects such as language skills: writing 41%, reading 6%, speaking 6%, and listening 15 %. Others dealt with other traditional aspects such as Grammar and Vocabulary. The results indicate that language assessment tends to mainly focus on writing skills. All these publications also followed the traditional pattern of assessing language skills separately.

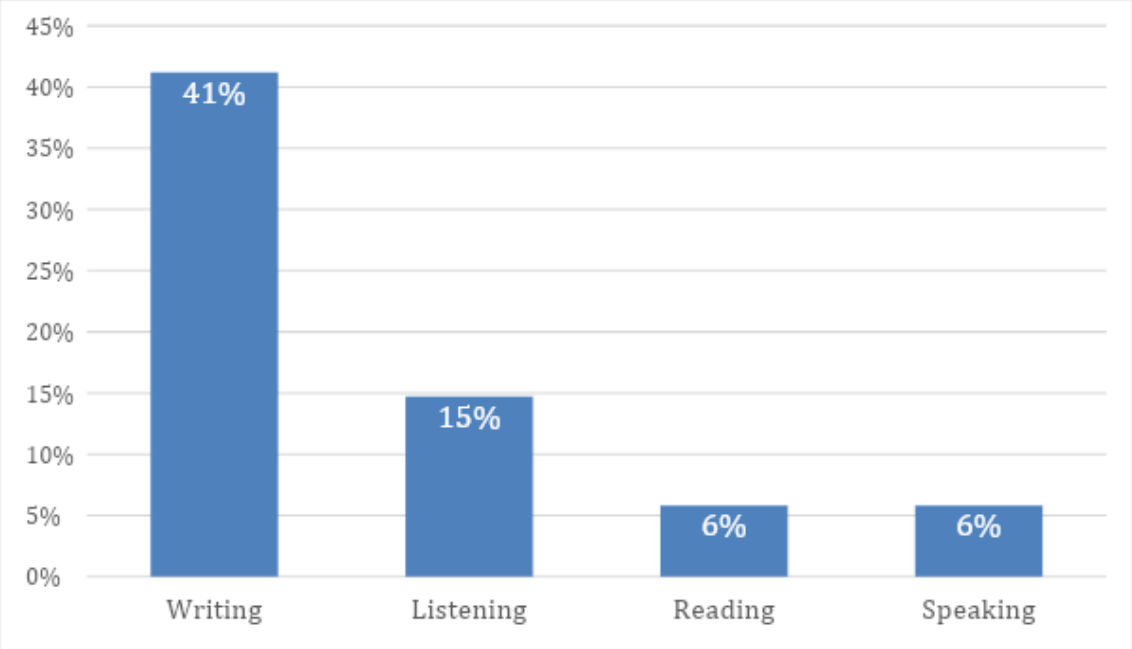

Figure 3. Language focus distribution

3.3. Languages, educational levels, participants involved in the studies and geographic distribution of the use of technologies in LL FA studies

3.3.1. Languages

English (56%) was the most surveyed language in the L2FA retained studies. It is surprising that Italian (6%) and Greek (3%) – rather than more commonly surveyed languages such as German and Spanish are among the languages assessed by technologies. If the review was extended to publications in other

languages, the results are anticipated to be different. This may be an area of future investigation.

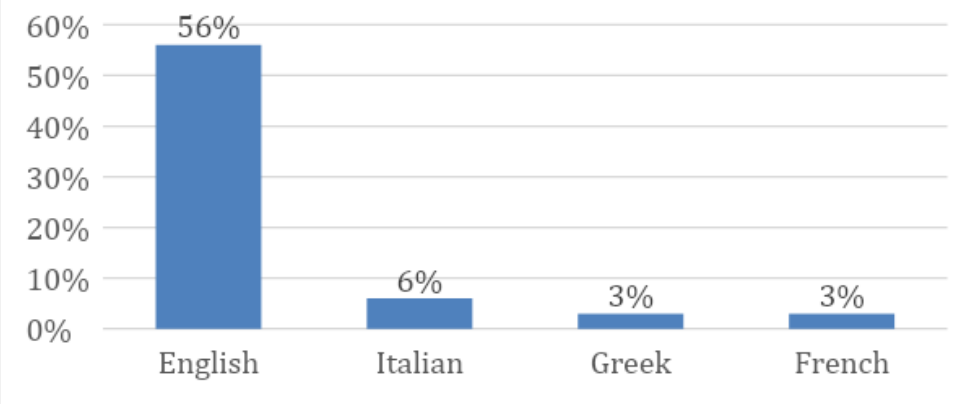

Figure 4: Languages

3.3.2. Educational levels

Findings show 74% of the reviewed publications mentioned the educational level of the technology-supported L2FA practices. The data revealed that tertiary settings were the most frequent (59%), over primary (9%) and secondary (6%).

3.3.3. Participants

Similarly, 74% mentioned the type of participants, the rest chose not to. The data also revealed that most studies involved students as participants (59%). 12% investigated teachers and 3% involved both students and teachers. More research would shed light into the use of technologies in L2FA at primary and secondary level and to other stakeholders such as teachers, examiners, school administrators, etc.

3.3.4. Geographic distribution of the use of technologies in LL FA studies

The SR reveals that studies were conducted in all continents except Antarctica. A total number of 18 countries were represented in this SR for the use of technologies in L2FA implementations. From Figure 6 it is evident that the US has the highest percentage 17% of studies, followed by Australia with 11%, Spain 7%, Japan 7%, Greece, Chile, China, Cyprus, Norway respectively with 6%, Turkey and Iran with 5% each, Saudi Arabia and Hong Kong with 4%, Canada and Israel with 3%, Taiwan, Malaysia and New Zealand with 2% respectively. Although research takes place worldwide, the percentages are still low.

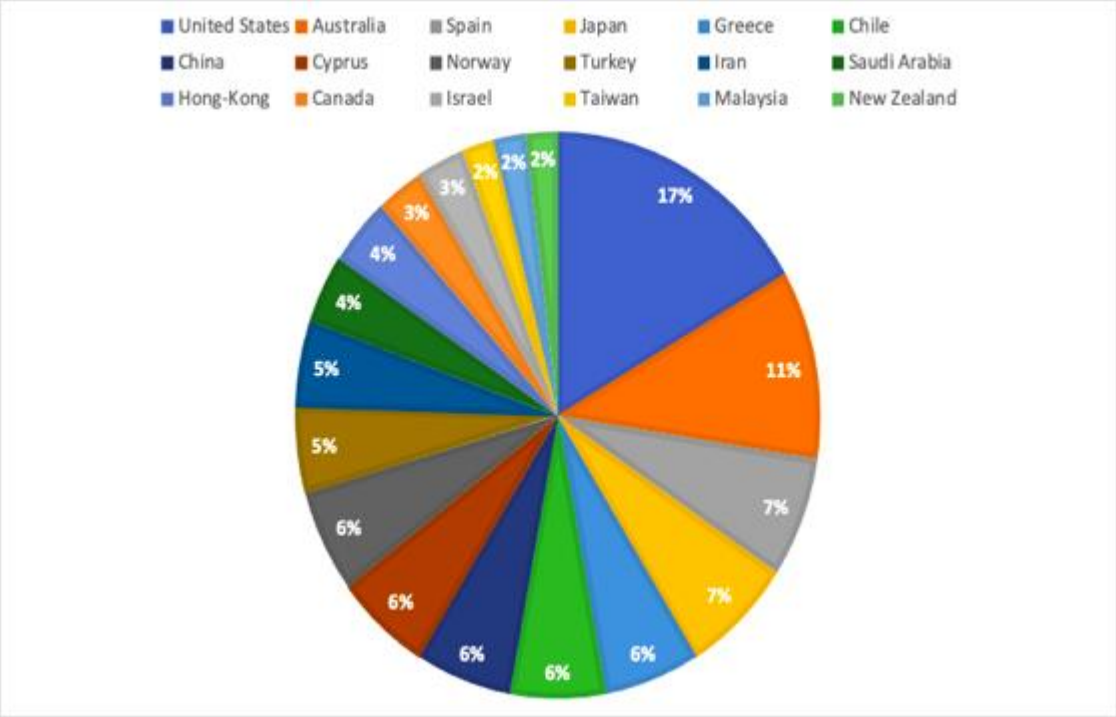

Figure 5. Geographic distribution of technology-enhanced L2FA studies

3.4. Research purposes and outcomes

3.4.1. Research purposes

Only 82% of the reviewed publications have mentioned their research purpose; the majority of these studies looked at online feedback (35%) and the use of digital tools (31%). This indicates the need for further examination of the purposes and focus of research in the use of technologies in language formative assessment. 97% of the research studies reviewed examined the advantages of the use of technologies for L2FA purposes. The remainder 3% were reviews which discussed the role of technology for L2FA purposes. More specifically 29% of the studies aimed to display the effects of online feedback in L2FA context. Feedback was reported in papers as "automated feedback" "corrective feedback", "online feedback", "peer feedback", "audio feedback" (Cotos, 2010; Sevilla-Pavón, et al., 2011; Heritage & Chang, 2012; Levy, & Gertler, 2015; Seyyedrezaie, Ghansoli, Shahriari, & Fatemi, 2016; Bless, 2017; Ranalli, Link, & Chukharev-Hudilainen, 2017).

According to Cotos (2010) online automated feedback has a strong positive impact on improving students' writing skills. Also, a clear and effective feedback of what has to be changed through the use of technologies in L2FA context is really beneficial for students. Seyyedrezaie, Ghansoli, Shahriari, & Fatemi (2016) support that explicit corrective feedback through the use of Google Docs increases students' confidence in their writing performance and offers opportunities for peer feedback. Additionally, Williamson and Sadera (2016) state that students who received electronic feedback had better results in summative assessment tasks through Grammarly and Turnitin Quickmark and improved their writing skills. Bless (2017) presented in his study the use of digital audio feedback through Kaizena that offers opportunities to improve students' writing skills. Canals and Robbins (2017) introduced a Virtual Learning Environment (VLE) where effective feedback was provided to improve students' oral and written skills.

Furthermore, Lee (2017), Saglam (2018), Ranalli et al. (2017), Alzaid & Alkarzae (2019), Alharbi, & Meccawy (2020), Kapsalis, Galani & Tzafea (2020) aimed to investigate if the use of various online

tools, like Storytelling, Blog-based writing, Wikis, Automated Writing Evaluation (AWE), Kahoot, Socrative, Nearpod, Google Docs, Screencast feedback can be used in L2FA practices and increase students' motivation and engagement for learning. The integration of technology gives more opportunities to students and learners to achieve a task than paper-based L2FA (Alzaid & Alkarzae, 2019). Alharbi and Meccawy (2020) showed the potential of Socrative as a L2FA online tool. Many of the advantages of Socrative are instant feedback, answer explanations and automated total score display. Also, researchers aimed to examine if Kahoot, an online tool that can be used for FA purposes, and in doing so, can improve language learning (Kapsalis et al., 2020). Also, Yarahmadzehi and Goodarzi (2020) investigated if there is any significant difference between the vocabulary gain of Iranian pre-intermediate EFL learners assessed formatively by paper and pen and those assessed formatively using a mobile device.

Eighteen percent of studies explore the benefits of using the E-portfolios as L2FA tools. More specifically, Kabilan and Khan (2012) aimed to investigate if E-portfolio can be considered as an effective formative assessment tool more than traditional-based tests. Also, Hung (2012) investigated the washback effects of implementing an E-portfolio. Additionally, Babaee and Tikoduadua (2013) explored the benefits of using an E-portfolio in improving students' writing skills. They concluded that the use of E-portfolios increased students' self-regulation, reflection and autonomy.

Other studies (8%) aimed to investigate teachers' perceptions on using technologies for L2FA purposes. Researchers aimed to investigate if a technology-accommodated environment offers an opportunity to formatively assess their students (Bless, 2017; Davison, 2019; Yarahmadzehi & Goodarzi, 2020).

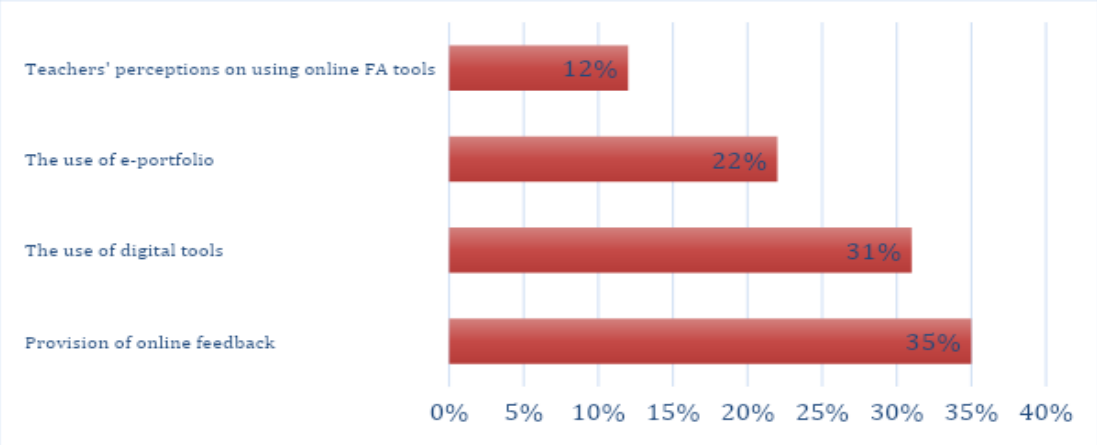

Figure 6. Research Purposes

In general, most of the research has been conducted to explore the affordances and the benefits of using digital technologies for FA purposes in Second Language Learning. Many of them aimed to investigate the improvement of students' language skills and some other teachers' perceptions on using digital tools for L2FA purposes.

3.4.2. Research outcomes

A total of 97% reported a positive impact of a technology-enhanced environment for L2FA practices on students' motivation and progress. Some authors highlighted the fact that an integrated technology environment may increase peer work (Hung, 2012; Babaee, & Tikoduadua, 2013; Cotter., & Hinkelman, 2019). Babaee and Tikoduadua (2013) argued that social networks and E-portfolios can promote peer assessment and self-assessment. Also, Cummins and Davesne (2009) stated that the

use of an E-portfolio offers students more opportunities for interaction and cooperative learning. Additionally, teachers in another study found E-portfolios more effective as an assessment tool in comparison to traditional tests. The integration of E-portfolio was found as an important formative tool that provides peer feedback and stimulates students' creativity, self-regulation, reflection and autonomy (Kabilan, & Khan, 2012; Babaee, & Tikoduadua, 2013).

Some other studies illustrated the improvement of students' writing skills with the use of automated or instant feedback (Tang, Rich, & Wang, 2012). Also, students became more autonomous, motivated and confident in their writing with the use of the automated assessment tool Writing Roadmap WRM (Tang et al., 2012). Moreover, Google Docs writing instructions increased students' confidence in their writing performance (Seyyedrezaie, et al., 2016). The findings of this systematic review came to agree with the findings of Bless (2017) who reported that audio feedback for formative assessment was not time consuming compared to writing feedback, and it created better relations with the students (Bless, 2017). The accommodation of a technology-enhanced environment for L2FA purposes may improve students' listening skills according to Caruso, Gadd Colombi, & Tebbit (2017). The study results indicated that the students enjoyed the flexibility offered by the environment and the effectiveness of the quizzes in developing their listening skills. Also, Alzaid, and Alkarzae (2019) concluded that web-based assessments offer more opportunities for FA than paper-based and improves the level of learner's memory. However, some issues concerning the integration of a technology-enhanced environment for FA purposes such as internet connectivity and learners' resistance to the use of technology during the lesson were reported (Hung, 2012; Kabilan, & Khan, 2012).

It is worth mentioning that teachers in some studies did not have a clear idea of the purpose of using FA; according to the authors, this could be explained by the fact that many teachers focused more on summative assessment practices and language educators need training in L2FA practices (Heritage, & Chang, 2012; Vassiliou & Papadima-Sophocleous, 2019).

3.5. Suggestions made by authors for further research in the area

Some researchers stated that a technology-enhanced environment can support L2FA practises. For this reason, language educators should be encouraged to further explore the integration of digital tools (Demirci, & Düzenli, 2017; Saglam, 2018). One aspect that could be further explored could be the role of gamification in L2FA, thus expanding what has already been addressed by Alzaid, & Alkarzae (2019). It was also suggested that more research should be conducted on L2 assessment and more specifically on FA practices (Papadima-Sophocleous, 2017). Also, Pellerin (2012) suggested that further research in the area should be conducted in the hope that language teachers realise that digital technologies offer many opportunities for language learning and FA implementations (Vassiliou, 2019, p. 76). Other researchers have suggested the need to train teachers to understand the importance of assessing learners for FA purposes. It was also suggested that it would be important to train students on how to use online self and peer assessment (Cotter, Hinkelman, 2019; Vassiliou, & Papadima-Sophocleous, 2019).

3.6. Limitations and identified gaps

This systematic review is an overview of the research published on the use of technologies in L2FA between 2000 and 2020. During this review, some limitations were experienced. One was the difficulty in accessing all the papers found during the research. Although 15,787 papers were found, 2,531 papers would not be accessed. One of the reasons was that some authors delayed giving access to their papers or payment was required for some others. Taking into consideration that of the 15,854

reviewed publications only 34 met the inclusion/exclusion criteria, one can suggest a similar result with the 2,816 publications which were not accessible. Their inclusion in this SR may have given different findings. They may have also given further and more informed and inclusive future directions to the researchers, practitioners and language teachers. It should be noted, however, this does not mean that all these 2,531 publications would have met the criteria.

Another limitation may be considered the fact that this study reviewed only research published in English. There may be papers published in other languages with important research outcomes related to L2FA. This could be a further research endeavour.

4. Conclusions

The data revealed that a variety of technologies have broadly been used in L2FA. Although theory, practice and research cover other L2 areas beyond language skills, the review indicated that research still focuses on language skills. Other aspects such as mediation and multilingualism could be explored. The data revealed that most publications examined the use of technologies at tertiary level, involving mostly students as participants. More research is needed at primary and secondary level and examining other participants such as examiners, and other stakeholders. The review also revealed that most research was carried out in the US and Australia, followed by Spain and Japan and less in other countries. More research would give a more comprehensive and accurate view of what is happening worldwide. Most research focused on feedback and the use of digital tools. Research in the use of technologies in other L2FA aspects would be useful. Finally, a positive impact of technology-enhanced L2FA practices on students' motivation and progress was reported in most publications.

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Language ideologies and washback effects in a high-stakes Greek language examination

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This paper examines the washback effect of the Greek language test component, of the annual national university entrance examination in Greece. In order to explain the reasons behind student underachievement on the aforementioned language exam, we adopted a mixed methods approach combining (a) sample document analysis of national curricula and past examination papers from 2000 to date and (b) a quantitative and qualitative analysis of practice test papers by 4 focal students, produced during their final year at school. The results suggest that the assessment criteria produced by the Ministry of Education are rather vague and generic. They seem to target the 'correct' production of pseudo-genres with specific content and ideological agenda; implicitly, a single, 'formal' register is expected (indexed by the use of archaic morphology, subordination in the syntax, formal fixed expressions and vocabulary) and emphasis is placed on the 'correct' production of paragraph structure. Despite "teaching to the test", progress in the students' language skills examined in this study was only random. We suggest that this is ultimately an aspect of the washback effect as the criteria covertly implemented for exam preparation target a very narrowly defined subset of linguistic skills, presented out of context and taught through repetition, without honing (critical) metalinguistic awareness.

Keywords: test washback, EFL, document analysis, test papers, teaching to the test

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1. Introduction

1.1 Washback effects, language ideologies and the Panhellenic Greek Language examination for university admission

The consequences of assessing student performance, especially through high-stakes examinations, has long attracted the interest of researchers, teachers, examiners and the general public. Various researchers refer to the effects of such examinations in the field of language assessment (Cheng & Curtis, 2004; Tsagari & Cheng, 2016). The term 'test washback'

is most widely used to refer to the influence of (high-stakes) language tests on the teaching and learning that take place prior to their administration (Alderson & Wall, 1993).

The washback effect is considered a consequence of participating in high-stakes exams (Alderson & Wall, 1993; Hamp-Lyons, 1997), is a potential means of bringing about educational reform (Pearson, 1988; Shohamy, 1992) and affects not only teaching and learning (Buck, 1988; Alderson & Wall, 1993; Messick, 1996) but also the teachers and the students themselves (Alderson & Wall, 1993; Bailey, 1999; Tsagari, 2009). The washback effect is also considered potentially positive (beneficial), negative (harmful) or neutral (Buck, 1988; Heaton, 1990; Messick, 1996; Shohamy et al., 1996) and can be intentional or unintentional (Andrews, 2004; Qi, 2004). Finally, there is a direct relationship between the stakes of a language test and the force of the washback effect, i.e., the higher the stakes of a language test, the stronger its washback effect (Alderson & Wall, 1993). Research so far has undoubtedly contributed significantly to the study of the washback effect. However, this area needs further research, especially in different cultural and educational contexts. Spratt (2005, p. 27) points out that:

> There is a need for more studies to be carried out in different learning contexts. Use of parallel methodologies for studies in different contexts might also allow researchers to investigate some of the apparent contradictions in the findings to date.

Investigating the washback effects of language tests is a difficult task, as the relationship between testing/assessment and teaching is a really complex one (causal or exploratory) and can be influenced by various mediating factors, as has been shown by several studies to date. Such complexity poses very interesting challenges for research (Tsagari & Cheng, 2016 and references therein). The case of the Panhellenic exams for university admission is therefore a very fruitful field of research as regards the washback effect on teaching and learning in all subjects, but especially in Modern Greek Language courses. On the one hand, as is constantly pointed out by many stakeholders and institutions in Greece, the students' language performance is not satisfactory; at the same time many teachers, parents, students and other stakeholders involved in the teaching and assessment process point out that the structure, the content and the aims of the Greek language exam do not correspond to actual language competences and language use; examination topics and assessment criteria are almost univocally criticised for promoting the production of "stiff", stilted or even verbose language and the reproduction of predetermined contents with particular ideological slants or biases, as explained in subsequent sections. On the other hand, as the Panhellenic Greek language examination is a high-stakes one, performance in it seems to determine the aims and objectives as well as the structure and content of Greek language teaching in the last grades of high school in public and private schools and certainly in private tuition centres, whose sole aim is to ensure success in the Panhellenic exams overall. Therefore, it would appear that we have a classic case of a washback effect of a high-stakes exam, and it is interesting to explore in what sense the content and structure of the essays produced as part of the exam are determined by (ideological) aspects of the Greek socio-cultural and educational context, why

the washback effect is so strong and if this effect has positive results for the learning process or, conversely, if it is detrimental to the fostering of (critical) literacy.

This paper attempts a preliminary investigation of these issues through an exploration of relevant documents and through a case study, which shows that teaching for the purposes of success in assessment ("teaching to the test") has negative results for the cultivation of literacy, precisely because the essays produced as part of the aforementioned exam do not assess real linguistic and literacy skills but indirectly cultivate and reproduce ideologically entrenched positions on literacy, which determine and regulate the ways in which student language production is evaluated, and, consequently, how language is taught and learnt.

1.2 The research

The research presented in this paper examines, through a case study, the contents and the objectives of the examination papers of the Panhellenic examinations in Modern Greek Language. More specifically, the research examines the causes of students' poor performance and investigates whether this is due to the content and structure of the exam tasks, to (inconsistencies with) the objectives of the National Curricula and/or to washback effects of the Panhellenic examinations on the Greek language and literacy teaching and learning.

We present and discuss the form, content and objectives of the Greek language test papers from 2001 to 2019 in order to determine whether assessment is in line with the objectives of the National Curricula for Language (Programme of Studies, 1999; DEPPS, 2003; National Curriculum, 2011). We also present a preliminary analysis of written essays by 4 students of the final grade of senior high school (Lykeio), which examines aspects such as the structure and organisation of the texts, their coherence and cohesion, the selection of the appropriate genre and their grammatical and lexical diversity. In this paper we focus on a small-scale quantitative and qualitative investigation through ratings of the essays by experienced assessors. The results show that there was no significant improvement in the language skills of the participants from the beginning to the end of the final school year.

2. The educational and ideological context of the exams

The Panhellenic examinations are annual high-stakes examinations and are considered a key educational event in Greece, as is evidenced by extensive media coverage and heated debates around them; the exam questions / topics are set centrally by committees of experts, while the Modern Greek Language paper (still informally referred to by its old-fashioned name: "Composition") is common for all students, irrespective of field of study. The papers are anonymous and are graded by two assessors. The Greek language exam is taken by over 70,000 students each year:

YEAR	NUMBER OF CANDIDATES
2016	85,614
2017	102,214

2018	96,140
2019	92,022
2020	71,184
2021	74,141
2022	71,268

Table 1. Numbers of candidates between 2016 and 2022 (https://aeitei.gr/statistika-epidoseon.php)

That these are high-stakes examinations is evident from the sheer numbers of participants but also from the yearly kerfuffle in the media around the difficulty of the examination questions, the (in)ability of the students to cope, etc. (see Figure 1).

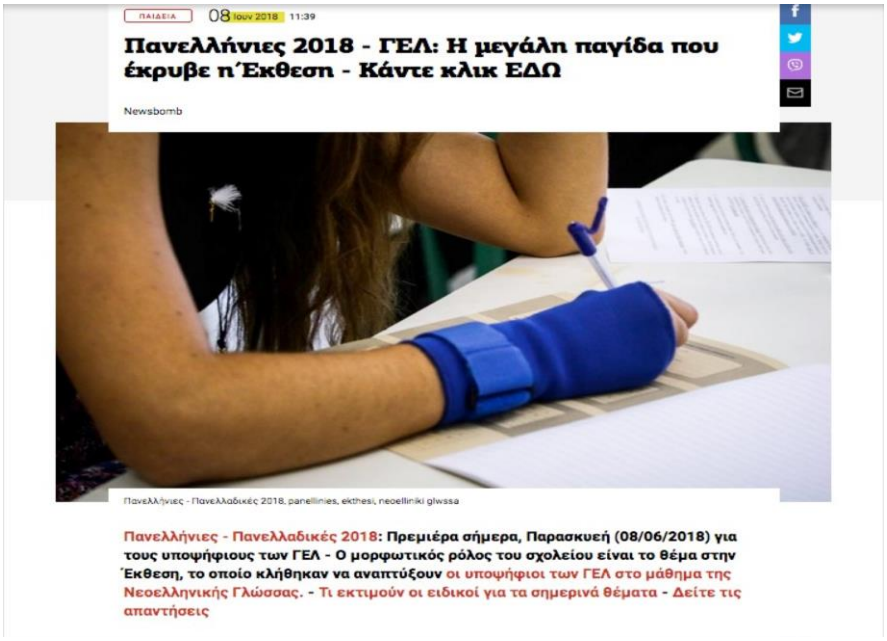

Figure 1. "The great hidden snare in Composition" (https://www.newsbomb.gr/ellada/paideia/story/891336/panellinies-2018-gel-themata-kai-apantiseis-h-megali-pagida-poy-ekryve-i-ekthesi-kante-klik-edo)

Of particular interest is the fact that almost every year the media and teachers of all levels express views on the "language deficit" of students based on the results in "Composition"; these views often express volubly moral panic and, on occasion, there is also fake news and disinformation exaggerating students' low achievement, as in Figure 2 from 2014:

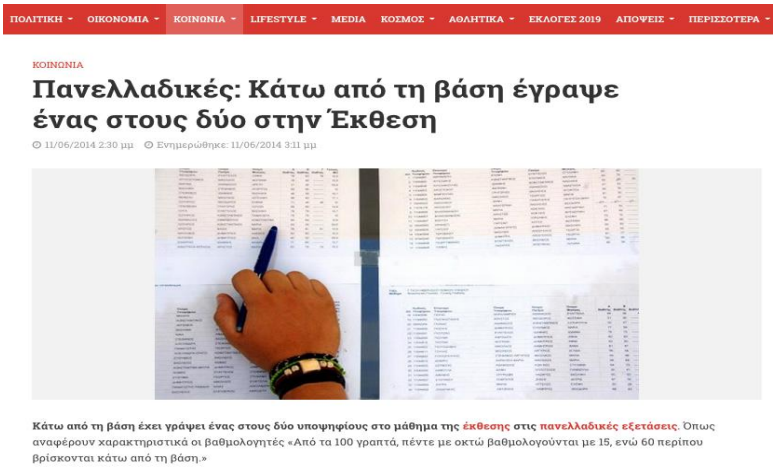

Figure 2. "One out of two students did not earn a passing grade in Composition" (https://www.parapolitika.gr/ellada/article/114834/panelladikes-2014-kato-apo-ti-basi-egrapse-enas-stous-duo-stin-ekthesi/)

As the Ministry of Education report in Figure 3 shows, the failure rates reported by the media, while at a rather high 20%, are nowhere near 50%.

ΠΙΝΑΚΑΣ
ΣΥΓΚΡΙΤΙΚΟΣ ΤΗΣ ΒΑΘΜΟΛΟΓΙΑΣ ΓΡΑΠΤΗΣ ΕΞΕΤΑΣΗΣ ΜΑΘΗΤΩΝ Γ' ΛΥΚΕΙΟΥ ΕΤΟΥΣ 2014
ΣΕ ΣΥΓΚΡΙΣΗ ΜΕ ΤΑ ΕΤΗ 2008-2013 ΚΑΤΑ ΜΑΘΗΜΑ ΜΕ ΒΑΣΗ ΤΟ 10

Α/Α	ΜΑΘΗΜΑ	ΧΑΡΑΚΤΗΡΙΣΜΟΣ ΜΑΘΗΜΑΤΟΣ	0 - 9,9									
			2008	2009	2010	2011	2012	2013	2014	2008	2009	2010
			ΠΟΣΟΣΤΟ %									
1	ΝΕΟΕΛΛΗΝΙΚΗ ΓΛΩΣΣΑ	ΓΕΝ. ΠΑΙΔΕΙΑΣ	25,88	22,57	24,10	20,44	22,83	12,99	20,01	74,11	77,42	75,89

Figure 3. The actual percentage of students who did not earn a passing grade in "Composition" in 2014 (https://www.minedu.gov.gr/anazitisi-archive/statistika-stoixeia-panelladikwn)

As we will argue later, these reactions have to do with the fact that the stakes and the investment in student success in "Composition" are not only practical / material but also, and *par excellence*, ideological.

Leaving ideologically-driven reactions aside, actual data suggest that student performance is rather unsatisfactory, with around 20% of students consistently failing to earn the passing grade (10 out of 20), as can be seen in Figure 4. Below we present the Ministry of Education Data for 2021 per Track of Study.

GRADE	NUMBER OF CANDIDATES	%
19 - 20	17	0.08 %
18 - 19	311	1.38 %
17 - 18	940	4.16 %
16 - 17	1784	7.90 %
15 - 16	2432	10.76 %
14 - 15	2888	12.78 %

13 - 14	2737	12.11 %
12 - 13	2524	11.17 %
11 - 12	2156	9.54 %
10 - 11	1724	7.63 %
5 - 10	4381	19.39 %
0 - 5	700	3.10 %
TOTAL	22,594	100 %

Table 2. Track 1: Humanities and Law, 2021 (https://aeitei.gr/statistikaepidoseon.php?year=2021&ypourgio=pedias&katefthinsi=1)

GRADE	NUMBER OF CANDIDATES	%
19 – 20	7	0.05 %
18 – 19	139	0.95 %
17 – 18	514	3.50 %
16 – 17	1244	8.47 %
15 – 16	1793	12.21 %
14 – 15	2302	15.68 %
13 – 14	2190	14.92 %
12 – 13	2061	14.04 %
11 – 12	1497	10.20 %
10 – 11	1145	7.80 %
5 – 10	1642	11.18 %
0 – 5	149	1.01 %
TOTAL	**14,683**	**100 %**

Table 3. Track 2: Mathematics and Science, 2021 (https://aeitei.gr/statistika-epidoseon.php?year=2021&ypourgio=pedias&katefthinsi=2)

GRADE	NUMBER OF CANDIDATES	%
19 - 20	21	0.16 %
18 - 19	280	2.19 %
17 - 18	933	7.29 %
16 - 17	1607	12.55 %
15 - 16	1926	15.04 %
14 - 15	1898	14.82 %
13 - 14	1693	13.22 %
12 - 13	1271	9.93 %
11 - 12	1009	7.88 %
10 - 11	660	5.15 %
5 - 10	1255	9.80 %
0 - 5	252	1.97 %
TOTAL	12,805	100 %

Table 4. Track 3: Health and Life Sciences, 2021 (https://aeitei.gr/statistika-epidoseon.php?year=2021&ypourgio=pedias&katefthinsi=3)

GRADE	NUMBER OF CANDIDATES	%
19 - 20	3	0.01 %
18 - 19	39	0.16 %
17 - 18	238	0.98 %
16 - 17	681	2.80 %
15 - 16	1368	5.62 %
14 - 15	2107	8.65 %
13 - 14	2758	11.32 %
12 - 13	3057	12.55 %
11 - 12	2959	12.15 %
10 - 11	2612	10.72 %
5 - 10	7127	29.26 %
0 - 5	1412	5.80 %
TOTAL	**24,361**	**100 %**

Table 5. Track 4: Economics and Information Technology, 2021 (https://aeitei.gr/statistika-epidoseon.php?year=2021&ypourgio=pedias&katefthinsi=4)

The failure rate is lowest in Track 3 (at around 12%, see Table 4), as this track attracts high-achieving students usually aiming for a place in the prestigious Schools of Medicine; it is at its highest in Track 4 (at around 35%, see Table 5), which usually attracts the weakest students. Results from previous years are directly comparable (see https://aeitei.gr/statistika-epidoseon.php and Figure 3 above).[1]

2.1 Autonomous literacy and ideology

As is argued in the literature, in public education in Greece there seems to be a large underlying ideological investment in models of autonomous literacy (Street, 1995) that consequently promote prescriptive attitudes of language and ideologically driven approaches to "knowledge" (Fragoudaki, 1987; Kostouli & Mitakidou, 2009; Moschonas, 2005; Tsiplakou 2007, 2015, 2016; Xydopoulos & Tsiplakou, 2022). The links between autonomous literacy models and hegemonic ideologies and conservative or even oppressive pedagogies have been extensively discussed in the literature. In brief, autonomous literacy implies prioritising linguistic and textual forms and structures and, consequently, educational practices that ignore the social and ideological dimensions of language, the fact that different linguistic forms, genres, structures and linguistic varieties are used in specific social and cultural contexts to construct particular positionings and interpretations of "reality" and to promote particular forms of social action according to the interests and aspirations of the authors and the social or power groups they represent (Baynham, 1995; Cope & Kalantzis, 2020; Gee, 2015; Kalantzis & Cope, 2012).

[1] We do not discuss the latest data from 2022, as a new form of the test including Greek Literature was introduced for the first time, so a proper comparison is not feasible (see https://aeitei.gr/statistika-epidoseon.php).

In contrast, models of ideological literacy (Street, 1995) or critical literacy (Baynham, 1995) aim to reveal the use and function of language in its social contexts and to critically evaluate explicit or implicit ideological positions in texts. This implies that in the education process the cultivation of literacy includes critical analysis of various genres and forms of language, linguistic varieties, including stigmatised or hybrid varieties and translanguaging, hybrid textual forms, etc., using the tools of Critical Discourse Analysis (Fairclough, 1992; Blommaert, 2005; Wodak, 2013), so that students are able to understand and evaluate the social positionings, ideologies and discourses, be they hegemonic or not, that are constructed through the content, structure and form of texts. In contrast, autonomous literacy models promote the cultivation of only certain forms of language or linguistic varieties, and do not explore the relationship of forms of language and texts to their social contexts. They promote the abstract, decontextualized "philosophical" essay as a more "demanding" and, therefore, as a more highly valued genre. Consequently, standard linguistic varieties, espouse ideologies about standard language (Lippi-Green, 1997; Milroy & Milroy, 1999; Xydopoulos & Tsiplakou, 2022) as cognitive and intellectually more demanding and ignoring the use of language in its real social contexts, as well as sociolinguistic variation and diversity.

The pedagogical implications of the autonomous model are obvious. It leads to what Kalantzis and Cope (2012) have termed a pedagogy of the transmission of inherited knowledge without active creative participation on the part of students in the process of learning. This is a pedagogy which silences the varied 'voices' and linguistic varieties of the classroom and disregards the social and cultural capital that students bring with them from their communities; a pedagogy that does not value or capitalise on alternative literacy practices that the children may have at their disposal. It is not surprising that autonomous literacy models are closely linked to the transmission of dominant hegemonic ideologies. Although the cultivation of "demanding forms of language" is supposed to lead to the honing of critical thinking, in reality, the contents and values transmitted through this pedagogy are non-negotiable, as they bear the hallmark of linguistic and qualitative 'superiority'. Thus, the knowledge that is transmitted is ideologically embedded and naturally couched in linguistic forms, registers or varieties (in our case "scholarly", verbose Standard Modern Greek; see Fliatouras & Anastasiadi-Symeonidi, 2019) that function as indexicals (see Silverstein, 2003) of a high educational level, of cognitive and intellectual superiority, of complex thinking, of a high level of literacy, etc. in the Greek linguistic and educational community.

The fact that the predominant literacy model in the Greek education system is autonomous and not critical is shown in the history of the National Curricula. In short, in the 1980s but especially in the 1990s, the famous shift from a grammar-centred to a text-centred and/or communicative approach took place (Tsiplakou, 2016). A key feature of this shift was the emphasis on cultivating awareness of textual and communicative appropriateness. Indeed, the National Curriculum (Programme of Studies, 1999 and the Interdisciplinary Unitary Framework for Programmes of Study (DEPPS, 2003), a reprint of the Programme of Studies of 1999, which was in use at the time of data collection for this paper) seems to have attempted a shift towards a communicative approach and genre literacy:

> Speech production, therefore, is any text, oral or written, produced by students in a specific communicative situation, with a specific purpose. The length and style of such texts are determined by the genre that is produced: a friendly or a formal letter, a description of events in a casual or a formal style, a narration of events in an experiential way, a presentation of views on topics that are familiar to the student and are linked to his interests, and so on.
>
> (DEPPS, 2003, p. 62)

However, the objective of "communicative adequacy" is not clearly defined, genres are treated prescriptively and as static entities (while there is frequent confusion between text type and genre, since narrative, description and argumentation are treated as genres; see Tsiplakou & Floros, 2013; Tsiplakou, 2015); in addition, the presumed promotion of the cultivation of metalinguistic awareness of the relationship between language and social reality is undermined from within. The Programme of Studies (PS) of 1999 (and DEPPS, 2003) adopts, albeit vaguely, some notion of social / critical literacy:

> Language is a social product: it emanates from society, serves society and returns [sic] to it.
>
> […] Language should be taught in relation to the social events [sic] that produce and nurture it [sic].
>
> Language is social interaction: Through language, members of a language community receive and exert influence.
>
> For teaching this means that language must be produced in its natural social-interactive context.
>
> (PS, 1999, pp. 7239-40)

However, the PS concludes that ultimately the linguistic forms and genres that the school must cultivate are those of school literacy, which qualify as "standard" or "acceptable" because they are the genres and language of science, of literature, of urban centres:

> Thus our language functions [sic] with a multitude of linguistic varieties, geographical (subvarieties, dialects) and social (special languages, etc.). Our purpose is the study of the whole of this linguistic treasure and its use in social and communicative circumstances / conditions. One of these language varieties is the one we cultivate at school. It is the linguistic variety in which students' textbooks, projects / compositions, etc. are written. It is taught and is related [sic] to the language spoken in the urban centres of the country and written by writers of the Greek canon. This linguistic variety is also used in science, administration, letters, arts, etc., adapting each time to the specific (administrative, etc.) communicative conditions.
>
> (PS, 1999, p. 7245)

The “communicative” dimension is therefore essentially limited to a small set of genres and communicative situations and to the cultivation of a “standard” variety; none of the above are adequately described, while the goal of critical metalinguistic awareness is conspicuously absent (see also Alefantos, 2012; Tsiplakou, 2015).

The Programme of Studies of 2011 (which was preceded by the Republic of Cyprus Programme of Studies for Language of 2010, both programmes having some authors in common and a common philosophy; see Chatzisavvidis et al., 2010; Hadjioannou et al., 2011), was the first attempt to introduce critical literacy to Greek education. This program set some clearly defined goals of critical literacy, as students were called upon:

> -to understand that linguistic forms (ways of writing and pronunciation, morphological, syntactic and lexical choices, genres) function as indexicals of aspects of social life and as mechanisms for constructing identities, ideologies, attitudes and behaviours, so that students will be able to highlight the relationship of the language of the texts with various social conditions and ideologies and to critically approach these relationships;
>
> -to understand that modern Greek, like any living language, is characterised by geographical and social variation, which is deployed by its users to encode social and cultural meanings, so that students will be able to capitalise on diversity creatively and to assess its socio-cultural roles;
>
> -to use as part of their linguistic capital pre-existing or emerging knowledge of dialects, sociolects or other languages from their local communities and to compare them systematically and critically with the standard variety, linguistically, stylistically and as regards their communicative and social dimensions (as a means of building alternative meanings, genres, identities, etc.);
>
> -to understand that genres and their concomitant linguistic forms are products of social factors and power relations among communicators, that is, that they are not typologically fixed and unchanging categories, but are transformed historically and synchronically on the basis of the communicative needs of each community and on the basis of economic, political and cultural changes.
>
> (PS, 2011, pp. 7-8)

However, the Programme of Studies of 2011 was never actually implemented, as the implementation was left to the discretion of the teachers.

The New Programme of Study for Language and Literature of 2021 (Government Gazette B 4402/23.09.2021) appears to incorporate some elements of critical literacy; as it is still too soon to assess its impact on student performance, we will not be discussing it in this paper.

2.2 Autonomous literacy and "Composition"

The gaps and fissures in the current Programme of Study involve the absence of the presumed communicative approach, of elements of critical literacy, and the promotion of a model of autonomous literacy that considers the production of texts in standard language and with a quasi-philosophical slant (comparable to the famous "seven paragraph essay") as the hallmark of linguistic competence and literacy. These positions are directly reflected in the examination of language and literacy skills in the Panhellenic examinations. The "Composition" topics in the exam usually come from essays written for school literacy purposes (e.g., *Practical Philosophy*, a 1964 book by educator and philosopher E. Papanoutsos or *The Modern Man*, a 1966 book by I.M. Panagiotopoulos, or from articles by more contemporary scientists or intellectuals). Despite other changes to the examination essay, which will be discussed in the following section, the topics of the "Composition" remain constant over time in terms of subject matter and ideological orientation:

> Composition topic, 1985:
>
> He who is determined to advance in his learning and to excel in science or in some craft [art?] no longer aspires, according to current views, only to his personal prosperity; he offers valuable succour to others.
>
> Reference text (i.e., text for reading comprehension, extract), 2014:
>
> Being human is a cyclical presence. It is not geared towards a single point on the horizon. He who is truly human cannot but be human on all occasions. Being human is not a profession, it is not a means of self-promotion and success. It is self-denial. You have to abandon a lot in order to gain what is most essential.
>
> Write an article, to be published in a local newspaper, referring to phenomena that prove the lack of humanity in our time, but also to activities, individual and collective, aimed at reducing this deficit.
>
> (I.M. Panagiotopoulos, 1966)

It is obvious that the exam topics have a specific ideological orientation: A specific ideological position about man (gender intended) as a social being is consistently promoted, as are particular values such as cooperation, altruism, self-denial, tradition, national identity, "middle ground" as a virtue, the values of bourgeois democracy, peace, philanthropy, respect for the environment, etc. We do not wish to comment on or evaluate these ideologies here; after all, any such commentary would be necessarily ideologically entrenched (Xydopoulos & Tsiplakou, 2022). What we are interested in is that specific ideological positions that are cultivated in the context of school literacy and the educational system at large are presented as naturalised, universal truths, with no room for critical reflection and without clarifying their ideological dimension, which remains covert. Thus, in the two examples above, "humanity" is

presented as a universal value as are the consequent proposed behaviours, without acknowledging that this value emerges within specific social, historical and class contexts and that the concepts of “humanity” and humanism can be interpreted differently depending on historical and social milieus and conditions.

Prior to 2000, writing skills were assessed only on the basis of the “Composition” while reading skills were not assessed. Based on the exam topic (which consisted only of an extract such as the one above, with no further explanation or clarifications), the candidates were expected to write in a genre that was not defined or required in the exam question; students were expected to know, although this was not explicitly stated or described in language classes at school, that they were supposed to write some type of formal/philosophical essay and that they should follow some conventions of school literacy, i.e., that the essay ought to have an introduction, a main body, some conclusions, a central idea in each paragraph, etc., in standard, scholarly Greek (whatever that is) and using a “rich vocabulary”. As was discussed above, such textual merits are broadly considered as hallmarks of literacy. Consequently, student performance in “Composition" was and still is a basic criterion for the evaluation of the language competence of the young, for pinpointing and lamenting the decline of the Greek language, etc. Indeed, the novel pejorative term “lexipenia” was coined back in 1985 as it turned out that several of the candidates did not know the meanings of the (rather archaic and thus more scholarly-sounding) words “prosperity” and “succour” (see Christides, 1999), which led to the media and public opinion bemoaning the language deficit of the young (note that in this popular view language competence is treated as equivalent to vocabulary knowledge).

From 2000 onwards the exam paper has a new structure; it examines:

• reading comprehension of a “Reference Text” through providing paragraph titles, analysing paragraph structure, writing a summary, spotting mechanisms of cohesion such as conjunctions, adverbs, etc.

• vocabulary (synonyms, antonyms)

• the writing of an “argumentative” text based on the Reference Text.

(for examples from the 2014 essay, see Appendix 1)

According to the relevant article of the Government Gazette,

> […] Students are asked to produce a text of their own, within a communicative frame, in relation to the reference text, in which they comment on or are critical towards points raised in that text, they refute its positions or present their own views, providing adequate arguments in support. The students’ text has the form of an argumentative text (a public speech, a letter, an article) and must be between 300 and 350 words.

(Government Gazette, 24.05.2019, 19437)

Despite the purported "communicative shift", the examination of exam papers, including "Composition" topics from 2000 onwards, an example of which was presented above, shows that in essence, nothing has changed in terms of the evaluation of writing (cf. Tsiplakou & Tsagari, 2021). Criticism can be summarised as follows:

There is a mismatch between the content and format of the exam questions/topics and the objectives of critical literacy. The examination aims at the prescriptively "correct" production of a single pseudo-genre, in fact a quasi-philosophical essay (known as "Composition of Ideas" in previous decades) disguised as a "letter to the press" or a "public speech", with essentially predetermined, expected content and ideological orientation. It is quite obvious that a pseudo-genre is required, as there is no real communicative situation, the social characteristics of the speaker/writer and the audience are not defined, nor is the purpose of the communication; the proposed "genres" are too general and too artificial to be meaningful (to mention only a few examples: an article written by a scientist and a media article of general interest, an article on politics or entertainment are, in fact, different genres; a public speech in the school context, a political speech or a scientific talk are also different genres; see also Michalis, 2020). The absence of these parameters leaves students in the dark as to the expected content and the expected ways of organising information and structuring arguments. The instructions state that an argumentative text is expected; but argumentative texts take different forms, depending on the genre: scientific argumentation is different from political, moral, emotive argumentation, etc. Consequently, the form of language differs: scientific discourse, public political discourse or personal experiential discourse are linguistically different. None of the above are specified in the instructions. The framework remains pseudo-communicative while in essence a "Composition of Ideas" in the spirit of traditional school literacy is expected. Concomitantly, a uniform, prescriptively "correct", "formal" stylistic level is expected. As was mentioned above, autonomous literacy goes hand in hand with hegemonic and standard language ideologies, and the Panhellenic examinations are a case in point.

3. The case study

3.1 The aim and the research questions

The case study that we will present below aims to investigate the washback effect of the Greek Language component of the Panhellenic examinations on the language competence and literacy learning of students. Therefore, the research question that guides our investigation is: 'Does teaching to the test (in this case the Greek Language exam of the Panhellenic examinations) hone the skills targeted? And if yes, in what ways? Theoretically, one could argue that even the cultivation of autonomous literacy, although only covertly stated, of a single school genre, the "Composition", of a single text type (argumentative text) and of a single register / stylistic level (formal), can potentially have beneficial, albeit somewhat one-sided, effects on literacy learning. It is therefore interesting to examine whether the students,

who are taught intensively with these objectives in mind, show improvement in their language performance in terms of what is assessed and evaluated positively in the Panhellenic examinations, i.e., a single genre, standard, formal language etc. - although these objectives are not clearly stated or compared and contrasted with other types of language and other genres, so metalinguistic awareness is not developed.

For the purposes of our study, 161 practice papers in "Composition" produced by 12 senior students were collected and two subsets of these were analysed (for results of a pilot analysis of the first set of papers see Tsiplakou & Tsagari, 2021). The papers were produced by students of a private tutoring institute in a city in Northern Greece. Informed consent was obtained by those involved and the scripts were anonymised and typed (keeping spelling and other mistakes). We focused on students whose papers we had at our disposal from the beginning to the end of the year. The teaching methods and the profiles of the participants are not examined in the present study, which focuses exclusively on the quality of the texts produced under conditions of intensive "teaching to the test" for the purposes of the exam. We assessed whether there was any improvement from the beginning to the end of the year, following intensive teaching that cultivated specific contents and ways of textual organisation and aimed at the acquisition of a "rich" vocabulary (including many learned elements) and the honing of writing in a "formal" style, which in essence translates into archaic morphology, complex syntax featuring extensive subordination, nominalisation, extensive use of passive voice, archaic-sounding words or expressions etc., as indexicals of a "learned", elaborate, literate style).

A quantitative and qualitative investigation was carried out through evaluations of 8 essays by 4 focal students; 4 of the papers were written at the beginning of the school year and 4 at the end, and we made sure that each set of papers was on the same topic in order to avoid possible distorting effects as a result of differences in the content: the practice test question in set 1 (beginning of the year) was to write a speech on the issue of violence in contemporary societies and the question in set 2 (end of the year) was to write a newspaper article on the causes of racism. The evaluations were carried out by nine experienced raters from various places in Greece, 4 men and 5 women, all teaching at Greek public schools and each with over 20 years of teaching experience as well as experience in preparing students for the Panhellenic examinations and in the grading of the Greek Language paper ("Composition"). It needs to be mentioned that most of our raters hold graduate degrees: four hold PhDs and two are PhD candidates, all in education-related areas. We used the rubric which is currently used in the Panhellenic examinations (Ministry of Education and Religions (MoE), Instructions, 135019/03-09-2019). The raters evaluated the papers on a scale of 1-5 regarding (a) content (b) text and paragraph organisation, (c) language. A few modifications were made to the official rubric. For example, "consistent use of […] style in the greatest part of the text", which, oddly, appears under "content" in the MoE instructions, was rephrased as "stylistic appropriateness" and moved under "Language" in our instructions. Also "breadth and precision of semantic elements" was changed to the more intelligible "breadth and precision of vocabulary".

Below are the collective results of the quantitative evaluation:

	RATER	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	AVERAGE GRADE
PAPER 1	1	3	3.33	1.66	2.33	2.58
	2	3	3	3.66	3.33	3.25
	3	3.33	3	2	2	2.58
	4	3	3	2.33	1.66	2.50
	5	1.66	1.66	1.66	1.66	1.66
	6	3	2.66	2.66	2.33	2.66
	7	1.66	2.33	1.33	1.33	1.66
	8	3.33	3.66	2.66	3.33	3.25
	9	1.66	2.66	1.66	2	2.16
	TOTAL					**2.48**
	RATER	**STUDENT 1**	**STUDENT 2**	**STUDENT 3**	**STUDENT 4**	**AVERAGE GRADE**
PAPER 2	1	1.66	4	3.33	2.33	2.83
	2	2.33	3	2.33	2.33	2.50
	3	3	3	2	3	2.75
	4	3	2	2.33	4.33	3.16
	5	1.33	1.33	1.33	1.33	1.33
	6	3.33	4	2.66	3	3.25
	7	2.33	3	1.33	2.33	2.25
	8	3	3.66	3	3.66	3.25
	9	1.66	2.66	1.66	3	2.25
	TOTAL					**2.62**

Table 6. Average grades per rater / student and total average

An interesting result was that the evaluators did not rate the "Compositions" written at the end of the year as significantly better (in fact some were rated as worse), which shows that despite "teaching to the test" — or perhaps because of it — there was no significant improvement.

Table 7 presents the results per evaluated area (content, text organisation, language):

	AREA	AVERAGE GRADE
PAPER 1	Content	2.61
	Text organisation	2.41
	Language	2.30
PAPER 2	**AREA**	**AVERAGE GRADE**
	Content	2.81
	Text organisation	2.61
	Language	2.41

Table 7. Average grades per area

As the results indicate, there was only very little improvement in the areas assessed, with the least improvement having taken place in language. As regards the qualitative findings, raters pointed out that the spelling mistakes in the papers persist; sometimes even the same ones are repeated in the end of the year paper.

*πο**ι**ο "more", συνδ**ι**ασμός "combination"*

(Student A, Paper 1 & Paper 2)

παρείσφιση "infiltration"

(Student B, Paper 1 & Paper 2)

The raters also remarked on the erroneous use of "learned" vocabulary (e.g. *μεταλλαχθεί* "mutated" in lieu of simpler, more accurate verbs, such as *στραφεί* "shifted"; *αφομοιώνονται* "are assimilated" probably in lieu of the somewhat similar-sounding *αφιερώνονται* "devote themselves":

> *Με την πάροδο του χρόνου ο άνθρωπος έχει **μεταλλαχθεί** από την αλληλεγγύη και την συμπόνια στον φθόνο στον ατομικισμό καις την βία.*
>
> With the passing of time man has **mutated** from solidarity and compassion to envy, individualism and violence.
>
> (Student A, Paper 1)
>
> *Ποιο συγκεκριμένα πολλα ατομα και κοινωνικές ομάδες **αφομοιωνονται** σε έναν αδιάλειπτο σκληρό αγώνα για να επιβάλλουν την θέληση και τα συμφεροντα τους.*
>
> More specifically, many people and social groups are **assimilated** in a constant harsh struggle to impose their will and their interests.
>
> (Student A, Paper 2)

Grammatical mistakes persevere even in practice papers from the end of the year:

> *Οι διαρκώς αυξανόμενες απαιτήσεις των ανεπτυγμένα οικονομικά κρατών, πυροδοτ**εί** εξεγέρσεις στα κράτη του τρίτου κόσμου, τα οποία, συχνά παρασυρόμενα από τη φτώχεια και στην συνέχεια, επικρατούν στις δικές τους περιοχές.*
>
> The constantly increasing demands of the financially developed states trigger**s** uprisings in third world states that, often carried away by poverty and subsequently, take over in their own territories.
>
> (Student D, Paper 2)

The raters also remarked on the absence of coherence and cohesion and semantically irrelevant content:

> *Η αθρώα μετακίνηση των ανθρώπων στον αστικό χώρο, προετοιμάζει το έδαφος ώστε οι πόλεις να μετατραπούν σε αρένες βίας. Με αυτόν τον τρόπο, άρχισε ο άνθρωπος να εγκλωβίζεται στους τέσσερις τοίχους του διαμερισματός του. Καλλιεργήθηκε στον άνθρωπο ο φόβος για τον άλλο και με αυτόν τον τρόπο ο άνθρωπος εκφραζόταν βίαια. Ο άνθρωπος έχασε το ανθρώπινο κομμάτι του και άρχισε να λειτουργεί μηχανικά. Μετατράπηκε λοιπόν ο άνθρωπος σε έναν απλό αριθμό, αδιαφορώντας για την ζωή του συνανθρώπου.*
>
> The massive movement of people to the urban space prepares the ground for cities to be transformed into arenas of violence. In this way, man has started to enclose himself within the four walls of his apartment. The fear for the other was cultivated in man and in this way man expressed himself violently. Man lost his human side and started functioning mechanically. Therefore, man was transformed into a plain number, being indifferent to the life of his fellow man.
>
> (Student C, Paper 1)

The raters also pointed out that the absence of semantic coherence goes hand in hand with low-quality argumentation:

> *Επίσης βιαιες επιθέσεις δημιουργούνται αναμεσα στις ισχυρες πόλεις εναντίων των ανήξερων πολιτων μονο και μονο για να πλουτίσουν οι βιομηχανίες που εχουν ως εμπόρευμα τα όπλα. Η ακομα καλήτερα η χρηματοδότηση τρομοκρατικών ομάδων και οργανώσεων για την επίτευξη πολιτικών και οικονομικών στόχων από διεθνείς παράγοντες. Με αποτέλεσμα να δημιουργούνται πολίτες οι οποιοι νιώθουν αποστάτευτοι και αβοήθητοι, με συνέπεια να οδηγούνται σε χειραγώγηση από του ισχυρούς. Ελπίζοντας για ενα καλύτερο μέλλον.*
>
> Also, violent attacks are created among powerful cities against ignorant citizens only in order for arm industries to become rich. Or even better the funding of terrorist groups and organisations by international agents in order to achieve political and financial goals. The result being that citizens are created who feel unprotected and helpless, being led into manipulation by the powerful as a result. Hoping for a better future.
>
> (Student A, Paper 1)

Some of the most recurrent motifs in the raters' comments involve (see also Appendix 2 for additional raters' comments):

(i) the perseverance of grammatical and spelling mistakes;

(ii) the memorisation and inappropriate use of "learned", archaic, stilted vocabulary; the lack of understanding of the semantics (and syntax) of the vocabulary featured very prominently in the comments;

(iii) the memorisation of "ready-made" content:

Τα παιδιά θεωρούν ότι μαθαίνοντας παπαγαλία κάποιες φράσεις ή περιόδους μπορούν επαρκώς να αναπτύξουν ένα θέμα που θα τους ζητηθεί […] Κατά ένα μεγάλο ποσοστό χρησιμοποίησαν κατά λέξη και ατάκτως ερριμμένες ιδέες που διαγραμματικά τους δίνονται ως ευαγγέλιο.

Kids think that memorizing some phrases and periods will help them discuss the essay topic adequately […] A large percentage used verbatim a mishmash of ideas given to them [by shadow educators] in the form of bullet points as though these were the Bible.

(iv) problems with structuring arguments;

(v) problems with structuring arguments and text organisation;

(vi) inability to produce the required genre; tellingly, raters attribute this to the pseudo-communicative nature of the writing task:

Στην αρχή πάντως φαίνεται πως προσπαθεί να γράψει άρθρο. Πολύ γρήγορα χάνεται.

At first, at least, s/he seems to be trying to write an article. This is lost very quickly.

Σε καμία περίπτωση δεν είναι ομιλία.

There is no way this is a speech.

Παραμένει περισσότερο «εκθεσιακό» και λιγότερο άρθρο (αυτό στην πράξη δικαιολογείται από τον ψευδοεπικοινωνιακό χαρακτήρα των εξετάσεων).

It still is more of a "composition" and less of an article (this is in fact accounted for by the pseudo-communicative nature of the exams).

(vii) attempts at erudition and stylistic sophistication that backfire:

[...] αποτυχημένη προσπάθεια εκφραστικής επιτήδευσης που καταλήγει σε μπαρούφες.

[…] a failed attempt at stylistic sophistication that results in gibberish.

Interestingly, even when the raters observe improvement in the texts, they still see them as exam papers rather than authentic language:

> *Βλέπω πίσω από το κείμενο έναν τυποποιημένο υποψήφιο που διεκπεραιώνει «αυτό που θέλουν» και αναπαράγει ξένες σκέψεις με ξύλινο λόγο.*
>
> Behind the text I can see a typical candidate who carries out "what they want" and reproduces someone else's thoughts in stilted language.
>
> *Λιγότερα τα συντακτικά λάθη. Λίγες οι ακατάληπτες λέξεις. Είμαι σίγουρη πως στις εξετάσεις θα έπαιρνε μεγάλο βαθμό. Γράφει με τον τρόπο που θέλουν πολλοί εξεταστές.*
>
> There are fewer syntactic mistakes. Few incomprehensible words. I am sure that in the exams s/he would get a high grade. S/he writes the way many examiners want.

A quite telling motif that keeps appearing in the raters' thorough and insightful comments is the unanimous recognition of the fact that the covert expectations of the evaluation system are detrimental to student literacy: authenticity and creativity are lacking, stilted language and unassimilated ideas predominate, half-baked memorisation of fixed answers and purportedly complex, erudite language is ultimately detrimental to literacy.

4. Discussion and implications

The findings clearly indicate failure to achieve the goals of language teaching that is oriented towards high-stakes exams such as the Greek Language paper of the Panhellenic exams. The raters' evaluations suggest that there was no real improvement in the language skills of the participants from the beginning to the end of the school year (e.g., in spelling, vocabulary or syntax); it is particularly interesting that the students did not improve in those areas and skills that are required and positively evaluated, despite intensive teaching. As mentioned above, underachievement can be attributed to a number of factors related to evaluation, teaching and the interaction between the two, mainly in the form of the strong washback effect of evaluation.

The evaluation criteria are general, minimal and vague (e.g., contextual, stylistic and lexical appropriateness, content relevance, grammatical correctness, the production of argumentative texts). However, the criteria that are covertly adopted promote the "correct" production of pseudo-genres with specific content, ideological orientation and style. The National Curricula promote "communicative appropriateness", although this goal is stated quite vaguely and is undermined by the Curricula themselves. A "formal" or "learned" register or style is expected in the evaluation (indexed by "learned" vocabulary, archaic morphology, subordination in the syntax, complex expressions) and specific contents.

In summary, the failure can be argued to be an aspect of the result of the washback effect of the examination under study, as examination preparation aims at a very limited subset of language skills and these skills are cultivated in a decontextualized way and without critical inquiry and reflection. In the context of the autonomous literacy model, emphasis is placed on the ideological content of the writing and the production of a purportedly "formal" and erudite register / style as an indexical of the quality of the text and of a high level of literacy—and not on the cultivation of critical (meta)linguistic awareness.

The study raises the issue of the restructuring of the Greek Language paper of the Panhellenic language exams with special emphasis on the validity of the content of the exam (construct validity) and the avoidance of washback effects during exam preparation (cultivation of critical linguistic awareness, a broader range of topics, genres, and linguistic varieties, metalinguistic awareness, critical literacy). In order to avoid the negative consequences of the washback effect, it is necessary to hone language assessment literacy (Tsagari, 2020) in those directly involved, e.g., teachers, educational and evaluation policy designers, etc. (Vogt & Tsagari, 2014, Fulcher, 2012; Inbar-Lourie, 2016; Taylor, 2009, 2013). Vogt and Tsagari (2014, p. 377) refer to assessment literacy as "the ability to design, develop and critically evaluate tests and other assessment procedures, as well as the ability to monitor, evaluate, and grade assessments based on theoretical knowledge." In future efforts to promote assessment literacy, assessment and evaluation should not be designed and administered according to overarching general constructs. Instead, they should be tailored to aspects of the teaching and assessment contexts and systems and the needs of the teachers and others involved in exam preparation and teaching. For example, primary school teachers should receive different training in assessment literacy than secondary or university teachers (Vogt, Tsagari & Spanoudis, 2020). Therefore, training programs should be designed according to the educational context of each country. In addition to carefully designed training programs, assessment literacy should be promoted through other means, such as online training platforms (see, e.g., the TALE project, http://taleproject.eu), (online) seminars and workshops, communities and groups of teachers and others, who will promote good practices in the field (Tsagari & Csépes, 2012). Again, all of these practices should reflect the needs of the various systems and stakeholders and build on the existing assessment and evaluation experiences of those involved.

5 Conclusions

In this paper we tried to address the issue of the washback effect of the Greek language paper of the Panhellenic examination on teaching and literacy learning at large. We discussed the (language) ideologies that drive teaching and assessment in the Greek education system, and showed how these are reflected in the content and structure of the national Greek language test for university admission. The case study presented set out to investigate whether some aspects of literacy, namely those promoted by the examination system, albeit with a strict autonomous literacy orientation, can in fact be honed through "teaching to the test", i.e.

whether the assumed washback effect of the test may have some positive effects on literacy learning. The data from the case study indicate the opposite, thereby stressing the need for change in assessment and evaluation, for assessment literacy and for a drastic rethinking of literacy learning in this educational context.

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APPENDIX I

THE STRUCTURE AND CONTENT OF A SAMPLE GREEK LANGUAGE TEST PAPER (2014)

2014 essay:

In order to better contextualise and understand the test questions, we provide a translated extract of the "Reference Tex" (the translation is as faithful as possible to the original text; meaning ambiguities and other peculiarities reflect those of the original):

Extract from the "Reference Text":

> Η «ανθρωπιά» είναι μια λέξη του καιρού μας, ένας όρος κοινόχρηστος, ένα νόμισμα που κυκλοφορεί σ' όλα τα χέρια, γιατί συμβαίνει η ανταλλακτική του αξία να είναι πολύ μεγάλη. Και με την «ανθρωπιά» εννοούμε, φυσικά, τη συμπόνια, τη συμμετοχή, με τον ένα ή τον άλλο τρόπο, στο πάθος του γείτονα. Και όχι μόνο του γείτονα. Του κάθε ανθρώπου. Άλλοτε χρησιμοποιούσαν τον όρο «ανθρωπισμός». Έλεγαν: «αυτός είναι μεγάλος ανθρωπιστής» και με τούτο εσήμαιναν μια προσωπικότητα που ξοδευόταν ολόκληρη για να κάμει το καλό. Ο Ντυνάν, για παράδειγμα, ο ιδρυτής του «Ερυθρού Σταυρού», υπήρξε ένας τέτοιος ανθρωπιστής. Πέρα απ' ό,τι θα μπορούσε να ενδιαφέρει αποκλειστικά το άτομό του, εσυλλογίσθηκε τους ανθρώπους που έπασχαν, έξω από διάκριση φυλής και θρησκείας, «εν πολέμω και εν ειρήνη». Ο «ανθρωπιστής», ένας άνθρωπος με σπουδαίες ικανότητες, που αναλίσκεται με ειλικρίνεια, χωρίς υστεροβουλία, ακόμη και χωρίς τη θεμιτή, επιτέλους, από πολλές απόψεις, επιθυμία της υστεροφημίας, υπήρξε, για πολλούς αιώνες, ένα θαυμάσιο ιδανικό, που οι προγενέστεροι το επρόβαλλαν στους μεταγενέστερους. Ακόμη τότε η «ανθρωπιά», μολονότι δεν έπαυε να είναι κοινή απαίτηση, δεν είχε καταντήσει κοινόχρηστος όρος. Ήταν η σπάνια, η υψηλή παρουσία, όπου μόνο μερικές εκλεκτές φύσεις κατόρθωναν να φτάσουν. Και ακόμη, μια καθημερινή άσκηση που ο καθένας την επιθυμούσε για τον εαυτό του, θεωρώντας την αυτονόητο χρέος του, χωρίς να συλλογίζεται ότι θα μπορούσε και διαφορετικά να την αξιοποιήσει. Το γεγονός ότι η απαίτηση της «ανθρωπιάς» έχει γίνει κοινός τόπος σήμερα δεν είναι χωρίς ιδιαίτερη σημασία. Δείχνει πως η οικουμενική ψυχή αισθάνεται βαθύτερα την ταλαιπωρία του ανθρώπου και αναζητεί διέξοδο […].
>
> (Ι. Μ. Παναγιωτόπουλος, 1966)

Translation:

> "Humanity" is a word of our time, a common term, a currency that circulates in all hands, because it happens that its exchange value is very high. And by "humanity" we mean, of course, compassion, participation, in one way or another, in the passion of the neighbour. And not just of the neighbour. Of every

human being. They used to use the term “humanism”. They said, "This is a great humanist," and by that they meant a personality that spent itself in doing good. Dunant, for example, the founder of the Red Cross, was one such humanist. Beyond what could be of exclusive interest to his person, he pondered on the people who suffered, irrespective of race and religion, “in war and in peace”. The “humanist”, a man of great abilities, who is consumed, in honesty, without the legitimate, in many respects, desire for posthumous fame, has been, for many centuries, a wonderful ideal, which was promoted by his predecessors, to the latter. Even then, “humanity”, although it was no longer a common requirement, had not become a common term. It was the rare, high presence that only a few exquisite natures could reach. And yet, a daily exercise that everyone wanted for himself, considering it his self-evident debt, without thinking that he could use it otherwise. The fact that the demand for “humanity” has become commonplace today is not without significance. It shows that the ecumenical soul feels the suffering of man deeper and seeks a way out. […]

(I.M. Panagiotopoulos, 1966)

The Reading Comprehension exercises are as follows:

A1. Write in your notebook the summary of the text (100-120 words)

25 points

B1. Develop the content of the following extract in a paragraph of 100-120 words:
“Human greed, the thirst for a life of comfort, does not leave any space for noble feelings. More than that: noble feelings are considered passé.”

10 points

B2.a. Find two ways in which the first paragraph of the text is structured and justify your answer.

6 points

b. What meaning links are established by the following words?
thus (paragraph 4)
however (paragraph 6)

4 points

B3.a. Write a synonym for each of these words from the text.
consumed, ecumenical, distortions, totally, well-being

5 points

B3.b. Write an antonym for each of these words from the text.
commonplace, participation, self-cancelling, knowledge, incessant

5 points

B4.a. Explain the use of quotation marks in the following cases:
“he is a great humanist”
“Red Cross”

2 points

b. Find three metaphorical expressions in the text

3 points

Finally, writing is assessed as follows:

Γ. Σε άρθρο σας, που θα δημοσιευτεί σε τοπική εφημερίδα, να αναφερθείτε σε φαινόμενα που αποδεικνύουν το έλλειμμα ανθρωπιάς στην εποχή μας, αλλά και σε δραστηριότητες, ατομικές και συλλογικές, που αποσκοπούν στον περιορισμό αυτού του ελλείμματος (500--600 λέξεις).

Μονάδες: 40

C. Write an article, to be published in a local newspaper, referring to phenomena that prove the lack of humanity in our time, but also to activities, individual and collective, aimed at reducing this deficit.

40 points

APPENDIX 2

ADDITIONAL RATER COMMENTS

Τα παιδιά θεωρούν ότι μαθαίνοντας παπαγαλία κάποιες φράσεις ή περιόδους μπορούν επαρκώς να αναπτύξουν ένα θέμα που θα τους ζητηθεί […] Κατά ένα μεγάλο ποσοστό χρησιμοποίησαν κατά λέξη και ατάκτως ερριμμένες ιδέες που διαγραμματικά τους δίνονται ως ευαγγέλιο.

Kids think that memorising some words and phrases will help them discuss the essay topic adequately […] A large percentage used verbatim a mishmash of ideas given to them [by shadow educators] in the form of bullet points as though these were the Bible.

Γενικά, επίσης, τις περισσότερες φορές δεν γνωρίζουν πώς να αξιοποιήσουν το ξύλινο λεξιλόγιο που τους υπαγορεύουν, ούτε ως προς την σημασία του ούτε όμως και ως προς τη συντακτική του χρήση.

Also, overall, they do not know how to capitalise on the stilted vocabulary dictated to them, neither in terms of meaning nor in terms of syntax.

ΠΟΛΛΑ ορθογραφικά λάθη! Απούσα στίξη! Συνοχή μεταξύ των ιδεών τους ανεπαρκής και συχνά άστοχη.

LOTS OF spelling mistakes! Punctuation is absent! Cohesion among ideas is inadequate, frequently missing the point.

Η δόμηση του επιχειρήματος ή ακόμη και η έννοια του επιχειρήματος τούς είναι παντελώς άγνωστη. Αυτό έχει ως αποτέλεσμα και την προβληματική δομή της παραγράφου. Άλλα λέει η θεματική πρόταση άλλα οι λεπτομέρειες...

Structuring an argument, or even the concept of argument, seems to be completely unknown. This results in problematic paragraph structure. The thematic sentence is about something other than the details…

Ατυχής οργάνωση, αναφομοίωτες ιδέες, αποτυχημένη προσπάθεια εκφραστικής επιτήδευσης που καταλήγει σε μπαρούφες.

Unfortunate organisation, unassimilated ideas, failed attempt at stylistic sophistication that results in gibberish.

Του λείπει η αυθεντικότητα ενός μαθητικού κειμένου.

It lacks the authenticity of a student text.

Έχω την αίσθηση πως πρόκειται για ιδέες που δεν έχει αφομοιώσει, αλλά έχει αποστηθίσει. Χρησιμοποιεί λέξεις των οποίων τη σημασία αγνοεί και για αυτό δεν τις εντάσσει στο σωστό γλωσσικό περιβάλλον. Οι διαρθρωτικές λέξεις υπάρχουν για εντυπωσιασμό και δεν ανταποκρίνονται στα νοήματα. Το κείμενο δεν είναι ούτε πληροφοριακό ούτε πειστικό. Απουσιάζει η προσωπική οπτική.

I have the feeling that these are ideas that s/he has not assimilated but memorised. S/he uses words whose meaning s/he ignores and therefore does not place them in the right linguistic context. Linking words exist in order to make an impression and do not correspond to actual meanings. The text is neither informative nor convincing. The personal perspective is absent.

Στην αρχή πάντως φαίνεται πως προσπαθεί να γράψει άρθρο. Πολύ γρήγορα χάνεται.

At first, at least, s/he seems to be trying to write an article. This is lost very quickly.

Υπάρχουν ιδέες και κάποια επιχειρηματολογία την οποία πάλι φαίνεται πως έχει προσπαθήσει να αποστηθίσει. Πολλές λέξεις είναι ανύπαρκτες.

There are ideas and some arguments that s/he again seems to have tried to memorise. Many words are non-existent.

Rater comments focusing on purported improvement in literacy skills:

Βλέπω πίσω από το κείμενο έναν τυποποιημένο υποψήφιο που διεκπεραιώνει «αυτό που θέλουν» και αναπαράγει ξένες σκέψεις με ξύλινο λόγο.

Behind the text I can see a typical candidate who carries out “what they want” and reproduces someone else’s thoughts in stilted language.

Σε καμία περίπτωση δεν είναι ομιλία. Λιγότερα τα συντακτικά λάθη. Λίγες οι ακατάληπτες λέξεις. Είμαι σίγουρη πως στις εξετάσεις θα έπαιρνε μεγάλο βαθμό. Γράφει με τον τρόπο που θέλουν πολλοί εξεταστές.

There is no way this is a speech. There are fewer syntactic mistakes. Few incomprehensible words. I am sure that in the exams s/he would get a high grade. S/he writes the way many examiners want.

Παραμένει περισσότερο «εκθεσιακό» και λιγότερο άρθρο (αυτό στην πράξη δικαιολογείται από το ψευδοεπικοινωνιακό χαρακτήρα των εξετάσεων).

It still is more of a “composition" and less of an article (this is in fact accounted for by the pseudo-communicative nature of the exams).

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Gender differences in reading strategy use in the Greek academic context

Theoklia Rizouli & Zoe Kantaridou

Reading is the most important skill in the academic environment, having a major contribution to academic success. Various studies in different educational contexts have reported differences in reading strategies between the two genders. However, the Greek higher education context has not yet been investigated in this respect. In an attempt to explain gender differences in the employment of academic reading strategies, we report results on reading strategy use of university students in relation to their gender. The t-test results indicated that female students use significantly more problem-solving and support strategies while in the global reading strategy category, the frequency of use is almost equal in the two genders. Moreover, there were statistically significant differences in eight strategy items, three of which belong to the global category, two in problem-solving and three in the support category. In six of these items, female students stand higher than male ones. Results are discussed in relation to similar studies in the literature and further research is suggested.

Key words:
Reading strategies, metacognition, Greek HE education, gender

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1. Introduction

Reading competence has a considerable contribution to academic performance. In an academic context, different reading purposes, such as searching for information, learning from texts, integrating information in a synthesis, etc., require readers to make several decisions and to engage in different reading processes, such as the strategic one. Strategic competences involve comprehension monitoring of processing difficulties or gaps in background knowledge and the possible activation of problem-solving strategies (Grabe & Stoller, 2019), all of which characterise higher-level reading (Phakiti, 2003). Strategies are viewed as intrinsic to the reading process and as leading to superior reading performance. Therefore, awareness of reading strategy use by the learners is deemed of special significance, especially since strategy awareness has been found to be the best predictor of strategy use (Lee & Oxford, 2008).

An area which has been investigated in relation to strategy use is that of gender. According to Phakiti (2003), this investigation is of paramount importance both for contributing to the formulation of "a sound L2 reading theory" (p. 651) but also for making both theorists and teachers aware of the

significance of the gender factor in L2 reading in order to use this knowledge for improving the learning conditions for both genders.

Further investigation of the "specific conditions and variables" (Phakiti, 2003, p. 652) that have an impact on males' and females' strategy use is important because these differences, which are prominent in all cultures, can point to different learning approaches adopted by females and males (Green & Oxford, 1995). However, the purpose of investigating gender differences is not to arrive at some kind of uniform pattern of strategy use by the two genders, as inconsistent findings, explained by the different "sociocultural and political contexts", are the norm (Poole, 2010: p. 57). Gender differences should not be examined as "a universal phenomenon" (Phakiti 2003, p. 679) but in a strictly context-specific perspective, in order to assess whether they do exist. Therefore, the originality of the present study lies into investigating reading strategy use and its gender differences in the Greek tertiary education context, in which, to the best of our knowledge, neither the students' reading strategies nor the teachers' practices have been documented.

2. Literature review

2.1 Metacognition

The significant role of metacognition in learning and reading has been recognized since the late '70s and early '80s (Baker & Brown, 1984; Flavell, 1979). In this framework, "metacognitive knowledge" and "regulation of cognition" form the two components of metacognition while metacognitive knowledge has a "unique contribution to cognitive performance" (Schraw & Dennison, 1994, p. 471). Knowledge about strategies is one of the three variables of metacognitive knowledge, and it involves declarative knowledge about strategies, conditional knowledge of "when" and "why" to use them (Schraw & Dennison, 1994) and procedural knowledge about "how to" implement them (Paris, Lipson & Wixson, 1983, p. 303).

Metacognitive awareness is a term used more frequently in reading research instead of metacognition to indicate awareness of oneself as a reader, of the reading task and of strategies (Padeliadu, Botsas & Sideridis, 2002). This awareness guides readers' planning, goal setting decisions, as well as the processing of tasks and comprehension monitoring (Grabe & Stoller, 2019). An increased state of awareness and the actual utilisation of reading strategies characterises a "strategic response to text" (Grabe, 2009, p. 51) and distinguishes skilled from unskilled readers (Mokhtari, Sheorey & Reichard, 2008). Lower ability readers are less aware of the source of the problem or take any subsequent action (Block, 1992).

Mokhtari and Reichard (2002) designed the Metacognitive Awareness of Reading Strategies Inventory (MARSI) to measure the metacognitive awareness of reading strategies of adult or adolescent L1 students. The MARSI version for ESL or EFL students is The Survey of Reading Strategies (SORS) (Mokhtari & Sheorey, 2002), the instrument used in the present study. The SORS is based on the MARSI's factor analyses and theoretical considerations (Mokhtari, Sheorey & Reichard, 2008) and includes the global, the problem-solving and the support strategy categories.

2.2 Strategy categories

Within the global, problem-solving and support strategy categories, individual reading strategies have been empirically included "in validated multiple-strategy instruction" studies (Grabe & Stoller, 2013, p. 226). These strategies are used in a different way by various proficiency levels while their effectiveness increases when they are used in combination with other strategies or as a cluster. According to Mokhtari and Sheorey (2002, p. 4) "**global** reading strategies are those intentional, carefully planned techniques by which learners monitor or manage their reading". Important global

strategies are previewing, use of background knowledge, checking the context and critical thinking. *Previewing* is a strategy used by experts (Baker, 1989) to plan for reading and can facilitate comprehension through schema activation and global text awareness (Prichard & Atkins, 2016; Zhang, 2001). The contribution of *background or prior knowledge* to comprehension has been acknowledged in L2 reading (Barry & Lazarte, 1995; Bernhardt, 1991; Carrell & Wise, 1998; Mc Neill, 2012; Pritchard, 1990), especially for lower language proficiency readers, if activated in a strategic way and combined with text evidence (Macaro, 2006). Weaker readers, however, often activate irrelevant knowledge and are led, therefore, to wrong inferences (Grabe, 2009) or knowledge of a personal type that does not allow them to integrate information (Block, 1986). *Checking the context*, i.e. using information from the immediate or "wider discourse contexts" strategically (Grabe, 2009, p. 72) to overcome comprehension obstacles, can also be enhanced through background knowledge activation. However, it may "slow reading to a type of problem-solving processing" (Grabe, 2009, p. 72). *Critical reading* characterises the good reader (Baker, 1989) and the final stage in a reader's development (Grabe & Stoller, 2019). Examples of critical reading comprehension are the evaluation of information in terms of reliability, bias, etc. (Grabe & Stoller, 2019).

Problem-solving strategies "are localised, focused techniques used when problems develop in understanding textual information" (Mokhtari & Sheorey, 2002, p. 4). The way they are phrased in the SORS suggests that they address both "the evaluation and regulation components of comprehension monitoring" (Baker & Brown, 1984, p. 379). Both skills are important in comprehension monitoring as readers may evaluate their weaknesses in comprehension but not be able to proceed with remedial action. Strategies of a more local type for restoring comprehension breakdown are *re-reading* (Block 1986; McNamara et al., 2007; Pritchard, 1990), *backtracking* (McNamara et al., 2007) and *adjusting the reading speed* (Young and Oxford, 1997). Re-reading and back-tracking are included in the more basic, text-based strategies of a local type, while adjusting the reading speed or monitoring the reading pace indicates higher reader awareness of task difficulty and purpose (Malcolm, 2009; Oxford et al., 2004). An important strategy used consciously by readers during comprehension monitoring is *guessing* the meaning of unknown words, i.e. drawing inferences about word meaning through the use of the immediate context. Strategic use of guessing can have long-term benefits, such as the building of "meaning frames" (Grabe, 2009, p. 72). However, the effectiveness of guessing depends on readers' conditional knowledge regarding the strategy (Hulstijn, 1993), their familiarity with a high percentage of vocabulary in the surrounding context (also in Sarig, 1987), and their ability to combine different context clues (Jimenez, Garcia & Pearson, 1996; Li & Munby, 1996; Nassaji, 2004; Oxford et al., 2004; Zhang, 2001; Zhang, 2010). In Zhang (2010), better L2 readers used a strategic approach, i.e. they either guessed word meanings or consulted the dictionary based on a word's relevance to their reading goals and task purpose while in Jimenez et al. (1996), the strategy of guessing was used in combination with other strategies such as the use of prior knowledge, questioning, inferencing, searching for cognates, and translating.

Support strategies include strategies unique to L2 processing such as translation and thinking about information in both the L1 and the L2. *Generating questions* or self-questioning (Baker and Brown, 1984) is classified as a global strategy in Grabe and Stoller (2019) but included in the support strategies in the SORS. The strategy involves more active monitoring of comprehension than a "passive" re-reading the text (Baker and Brown, 1984, p. 372) and it compensates for language deficiencies or lack of prior knowledge of students with an advanced proficiency level. However, even though the strategy has significant gains for comprehension, it does not arise naturally but needs to be taught (Baker and Brown, 1984; King, 1989). *Paraphrasing* is a text-based strategy, involving rewording at a local level (Block, 1986; Young & Oxford, 1997). Paraphrasing "externalises readers' understanding" and raises their awareness regarding comprehension difficulties, thereby making them activate additional strategies (McNamara et al., 2007) or helps readers compensate for the lack of appropriate cultural schemata (Pritchard, 1990).

What emerges through the review of the different categories of strategies as well as of the individual strategies within each category is that the same strategy can be used in a less or more effective way and that readers of higher ability levels use the strategies more successfully or use different combinations of strategies to a certain extent. For example, the effectiveness of the use of the strategies of guessing the meaning from context and consulting the dictionary would be maximised if they were used in a cluster, i.e. in combination with other strategies. However, despite the multiple studies around the world which focus on the use of individual reading strategies by students, no study has yet investigated the reading strategies in the Greek higher education context.

2.3 Reading strategy use and gender

Several studies on gender differences in strategy use have been conducted in different contexts and with different instruments, both in a language learning strategy context mainly with the use of SILL (Strategy Inventory for Language Learning, Oxford, 1990) and in a reading strategy context. Important among the latter is the Phakiti study (2003) with an instrument adapted from the O' Malley and Chamot framework (1990) and several studies investigating reading strategy use through the instruments of SORS or MARSI, which are very similar.

The main observations that can be made in relation to strategy use and gender are the following: In general, higher frequency of strategy use by women has been identified in several studies. For example, in several language learning strategy studies, higher strategy use by females in comparison to males is reported (Ehrman & Oxford, 1989; Green & Oxford, 1995; Lee & Oxford, 2008; Oxford & Nyikos, 1989; Peacock & Ho, 2003; Psaltou-Joycey & Kantaridou, 2009) or, more specifically, a higher frequency of use in specific strategy categories (Oxford & Nyikos, 1989), as for example, global strategies (Green & Oxford, 1995), memory and metacognitive strategies (Peacock & Ho, 2003) or strategies related to successful learning (Gu, 2002). Green and Oxford (1995) reached the conclusion that gender differences in strategy use could be attributed to biology or social roles. In other studies, a higher use of global strategies by males (Young & Oxford, 1997; Zhang, 1999; Zoubir-Shaw & Oxford, 1994) or of metacognitive strategies (Ghezlou et al., 2014; Lee & Oxford, 2008; Phakiti, 2003; Zhang, 2018) is reported.

In studies investigating reading strategy use and gender through the use of SORS or MARSI, the findings are not as consistent. In several studies, no differences between genders are reported (AL-Sohbani, 2013; Hong-Nam & Page, 2014; Park, 2010; Poole, 2005a; Sheorey & Mokhtari, 2001; Tavakoli, 2014; Wallace et al., 2021). However, in the case in which differences are noted, these are almost always in favour of females. More specifically, in several SORS/MARSI studies, no significant differences in overall strategy use or in any of the subscales is found (Abusaeedi & Khabir, 2017; AL-Sohbani, 2013; Deliany & Cahyono, 2020; Hong-Nam & Page, 2014; Park, 2010; Poole, 2005a; Sheorey & Mokhtari, 2001; Tavakoli, 2014; Wallace et al., 2021). Significant differences in favour of females have been found in relation to the following areas: overall strategy use (Chen & Chen, 2015; Okyar, 2021), more frequent use in all three subscales (Arrastia, Zayed & Elnagar, 2016; Sheorey & Baboczky, 2008), in the problem-solving and support subscales (Iyitoglou & Aydin, 2015; Poole, 2009) or only in problem-solving (Madhumathi & Gosh, 2012) or support strategies (Boonkongsaen, 2014; Lahuerta Martinez, 2008).

In the Greek educational context, a large-scale study in language learning strategies through the use of the SILL indicated that metacognitive strategies were moderately used by Greek university students (Psaltou-Joycey & Kantaridou**,** 2009). In relation to the investigation of the gender factor, in the Gavriilidou and Papanis (2010) study, in which the learning strategies of Greek university students were investigated, the effect of gender did not prove to be of significance, a result similar to that in Psaltou-Joycey (2008). In Griva, Alevriadou and Semoglou (2011), the verbal data revealed the female

students' flexibility in reading strategy use and their higher metacognitive awareness compared to male students. In the Greek primary sector in which an appropriately adjusted version of SILL was used, gender did not come out as a distinguishing factor in language learning strategy use (Psaltou-Joycey et al., 2014). This may indicate that differences in strategy use that appear in higher education may be attributed to educational and social context rather than innate disposition.

2.4 Individual strategy use and gender in SORS studies

As discussed above, significant differences between genders in terms of different strategy subscales have been reported in several SORS studies. Very few SORS studies have investigated the differences in individual strategy use between genders. Young and Oxford (1997), point out, however, that the differences in individual strategy use between males and females may be more meaningful and suggestive of the different ways the two genders learn and, therefore, merit closer examination. Furthermore, the most and least used strategies reported by males and females in different studies can reveal similarities regarding the strategies preferred by the two genders.

Examples of the only, to our knowledge, SORS studies in which significant differences have been observed between genders in individual strategy use are highlighted in Appendix I. In the Sheorey and Mokhtari (2001) study with ESL students, females surpassed males only in relation to one strategy (underlining or circling information). The different SORS studies conducted by Poole are a good example of the influence of the sociocultural context since in each one the participants are of different nationalities or educational settings. In Poole (2005a), ESL male college students representing "nine language groups" (p. 12) exceeded females in use of one global strategy but so did females in terms of one problem-solving. In Poole's (2005b) study with Chinese university students, significant differences in favour of female strategy use were found in 18 strategies. In the Poole (2009) study with Colombian university students, females significantly surpassed males on eight strategies while in the Poole (2010) study with Colombian high school students, females used significantly more frequently nine strategies. Finally, in Park (2010), Korean female EFL students used 10 strategies significantly more frequently than their male peers. It should be noted here that some of these strategies (e.g. "underlining or circling information in the text", "reading aloud when text becomes difficult", "using reference materials", "reading slowly and carefully to make sure I understand what I am reading", "using typographical features", "paying close attention to what I am reading") are cited as being more frequently used by females in almost all these studies.

The above literature review points to the need for investigating the genders' metacognitive awareness of reading strategies in the Greek EAP university context. The present study intends to approach an area that has been little investigated in relation to the above context and will attempt to answer the following research questions:

1. What is the frequency and pattern of reading strategy use as self-reported by Greek female and male students in an EAP university context?
2. Which are the most and the least used strategies used by the two genders?
3. How does individual strategy use differ by gender?

3. Method

3.1 Participants

In total, 381 students participated in the present study. Participants include freshmen (60%) and sophomore (40%) students from the fields of economics (34%), accounting and finance (39%) and business administration (27%). There were 174 male students (45%), 185 female (49%) and 22 who did not indicate their gender (6%).

3.2 Instrument

The present study used the Survey of Reading Strategies-SORS (Mokhtari & Sheorey, 2002) to measure the participants' metacognitive awareness of reading strategies (Appendix II-the Greek version of SORS). The SORS has thirty items, grouped into three strategy categories: the global (13 items: 1, 3, 4, 6, 8, 12, 15, 17, 20, 21, 23, 24, 27), the problem-solving (8 items: 7, 9, 11, 14, 16, 19, 25, 28) and the support subscales (9 items: 2, 5, 10, 13, 18, 22, 26, 29, 30). The SORS uses a 5-point Likert scale ranging from 1 (never) to 5 (always). Frequency of use is calculated at three levels: ≥ 3.5 and above is considered high frequency of use; 2.5-3.4 represents moderate or medium use, and ≤ 2.4 low use. A Greek translation of the SORS was used in order to address students of all competence levels. The validity of the Greek translation was checked by expert EAP teachers with the back translation method and was piloted with 20 EAP students, who did not later participate in the main study. The Cronbach *α* of the Greek SORS was .837, which is considered high. The reliability of the strategy categories was: Cronbach *α*=.746 for global, Cronbach *α*=.582 for problem-solving, Cronbach *α*=.640 for support. The internal consistency of the global category of strategies is acceptable while for the problem-solving and the support categories questionable. However, similar results were also indicated in other studies (Αϊβάζογλου, 2013; Ghaith & El-Sanyoura, 2019; Zhang & Wu, 2009). The questionnaire was administered online and students participated in the study on a voluntary basis as part of the EAP course.

3.3 Data analysis

Data were analysed using SPSS 23 software. Initially, means and standard deviations were calculated for each of the reading strategy items and subsequently compound variables were computed on the basis of the original scales. The reliability of the scales was checked with the Cronbach alpha test of internal consistency. An independent sample t-test was used for the comparison of the two genders' frequency of strategy use. The significance level was set at .05.

4. Results

First, the results for the three strategy categories will be presented for the whole sample and the comparison between genders (Table 1). Then, in order to examine the students' reading strategies more closely, the results of the strategy items will be presented for the whole sample and the comparison between the genders (Table 2).

In relation to the strategy categories (Table 1), the problem-solving strategy category (M=3.86) emerged as the most frequently used by the students at a high level of frequency, followed by the global (M=3.47) and the support (M=3.31) categories at a moderate frequency level.
Regarding the comparison of the two genders, the independent sample t-test indicated statistically significant results in the problem-solving (*t*(357)-2.600, *p*=.010) and support (*t*(257)-4.067, *p*=.000) categories (Table 1). The results indicate that female students use significantly more problem-solving and support strategies, while in the global reading strategy category, the frequency of use is almost equal in the two genders.

	Total mean N=381	**Male** N=174	**Female** N=185	*t* (df=357)	Sig. (2-tailed)
Global	3.47 (.51)	**3.48** (.49)	3.46 (.50)	.439	.661
Problem-solving	**3.86** (.47)	3.79 (.46)	**3.92** (.44)	-2.600	**.010**
Support	3.31 (.57)	3.19 (.54)	**3.43** (.55)	-4.067	**.000**

Table 1. Means and (SD) in the reading strategy categories (total) and in the two genders.

Regarding the frequency of use of the individual items (see Appendix II), 17 items fall in the range of high use, with four of them being in the borderline between high and moderate use (items 15, 21, 2, 30). In the high use range, there are seven items of the global category, six of the problem-solving and four of the support. Twelve items fall in the moderate frequency of use: six from the global category, two from problem-solving and four from support. There is only one item from the support category (26), which falls in the low frequency range. The overall mean of metacognitive reading strategy use is M=3.55, which falls in the borderline between moderate and high frequency of use.

Regarding the comparison of the two genders (Table 2), the t-test analysis indicated statistically significant differences in eight items (5, 7, 10, 13, 14, 20, 21 and 27), three of which belong to the global category, two in the problem-solving and three in the support category. In six of these items, female students stand higher than male ones. Male students stand higher in two global category strategies, items 21 and 27.

T-test gender	**Male (174)**	**Female (185)**	***t* (df=357)**	***p***
5. When text becomes difficult, I read aloud to help me understand what I read. SU.	2.41 (1.24)	3.24 (1.27)	-6.281	.000
7. I read slowly and carefully to make sure I understand what I am reading. PS.	3.87 (.93)	4.18 (.78)	-3.410	.001
10. I underline or circle information in the text to help me remember it. SU.	3.61 (1.21)	4.16 (1.02)	-4.624	.000
13. I use reference materials (e.g. a dictionary) to help me understand what I read. SU.	2.90 (1.10)	3.22 (1.05)	-2.804	.005
14. When text becomes difficult, I pay closer attention to what I am reading. PS.	4.09 (.76)	4.27 (.80)	-2.146	.033
20. I use typographical features like bold face and italics to identify key information. GL.	2.78 (1.27)	3.16 (1.15)	-3.015	.003
21. I critically analyze and evaluate the information presented in the text. GL.	3.66 (.92)	3.44 (.96)	2.182	.030
27. I check to see if my guesses about the text are right or wrong. GL.	2.72 (1.15)	2.48 (1.05)	2.085	.038
GL: Global, Problem-solving: PS, Support: SU				

Table 2. T-test results of statistically significant SORS items by gender

Overall, statistically significant gender differences were indicated in favour of females in problem-solving and support strategy categories and in one global (20), two problem-solving (7, 14) and three support strategies (5, 10, 13).

5. Discussion

We will discuss the results of the present study in the following sections by answering the research questions (RQ) and by comparing them with those of similar studies in the literature.

5.1 Frequency and pattern of strategy use by gender (RQ1)

From the above results, we derived that females are high reading strategy users (M=3.60) while males are moderate reading strategy users (M=3.48) but very close to the 3.50 margin of high use. Frequency of use is high in the problem-solving category, followed by moderate use in the global and support categories while the order of use is the same for both females and males. Significant differences between the two genders were found in the problem-solving and support categories, both in favour of women.

The same pattern of strategy use, with higher use made by both genders in the problem-solving category, followed by the global and then the support has also been found in other studies investigating gender differences (Boonkongsaen, 2014; Hong-Nam and Page, 2014; Lahuerta Martinez, 2008; Madhumathi & Gosh, 2014; Okyar, 2021; Park, 2010; Poole, 2010). A different pattern can be noted in the Chen and Chen (2015) study, in which higher use was noted in the global category followed by the problem-solving and support ones. Finally, in Sheorey and Baboczky (2008) male subjects preferred the support, then the problem-solving and last the global strategies, while females preferred the problem-solving, then the support and last the global category.

Our findings, according to which, female students make significantly more frequent use of problem-solving and support strategies both concur and at the same time differ from those of other studies. Similarities between the findings of the present study and those of other studies are the following: in Poole (2009) and Iyitoglou and Aydin (2015) studies, females also differed significantly in the problem-solving and support strategies while in Hong-Nam and Page (2014) and Madhumathi and Gosh (2014) higher use by females was only made in the problem-solving category. Females made significantly higher use of support strategies in Boonkongsaen (2014) and of global strategies in Poole (2010). Finally, in Sheorey and Baboczky (2008) and Chen and Chen (2015) differences were statistically significant in favour of females in all strategy categories.

5.2 Most and least used strategies by gender (RQ2)

Table 3 highlights the five most and least used reading strategies indicated by our Greek university students in descending order.

Most used strategies	**Male**	**Female**
25. When text becomes difficult, I re-read it to increase my understanding. PS	✓	✓
9. I try to get back on track when I lose concentration. PS	✓	✓
14. When text becomes difficult, I pay closer attention to what I am reading*. PS	✓	✓
7. I read slowly and carefully to make sure I understand what I am reading*. PS		✓
10. I underline or circle information in the text to help me remember it*. SU		✓
3. I think about what I know to help me understand what I read. GL	✓	
17. I use context clues to help me better understand what I am reading. GL	✓	
Least used strategies		
24. I try to guess what the content of the text is about when I read. GL		✓
19. I try to picture or visualise information to help remember what I read. PS	✓	✓
8. I review the text first by noting its characteristics like length and organisation. GL		✓
27. I check to see if my guesses about the text are right or wrong*. GL	✓	✓
26. I ask myself questions I like to have answered in the text. SU	✓	✓
20. I use typographical features like boldface and italics to identify key information*. GL	✓	
5. When text becomes difficult, I read aloud to help me understand what I read*. SU	✓	
*=statistically significant differences GL: Global, Problem-solving: PS, Support: SU		

Table 3. The five most and least used reading strategies by gender

Taking a close look at the five most frequently used strategies reported here in comparison to other SORS studies (see Appendix III), we can note the following: in the current study, male and female subjects report using the same three problem-solving strategies more frequently (items 25, 9, 14) but not in the same order of preference. They differ, however, in the other two most preferred strategies, the males reporting more frequent use of two global strategies and the females of a different global strategy and one support. This support strategy, item 10, "*I underline or circle information in the text to help me remember it*", is one of the most preferred strategies by females in almost all the other studies identifying gender differences in strategy use. In general, there is a preponderance of problem-solving strategies in the most highly preferred ones, with several studies reporting three or four problem-solving strategies among the five most highly used ones, while in Poole (2005a) all five most used strategies used by males are problem-solving ones.

Another observation is that males and females do not show preference for the same types of strategies although the same items within each category appear to be more highly used by both males and females. In most of the studies reporting differences by gender, it is almost exclusively the females who use support strategies among their top five strategies, with their most preferred item being item 10, as stated above. Global strategies are almost equally reported by males and females among their top five strategies while the global item appearing in most studies is item 3, "*I think about what I know to help me understand what I read*", i.e. use of prior knowledge. In the problem-solving category, the same items are reported in almost all studies among the five most used items. These are: a) item 25 (*re-reading the text when it becomes difficult*), which appears in all the studies reviewed here, either as the most-highly used or as one among the five most-highly used both by males and females, b) item 14 (*paying closer attention to what I am reading when text becomes difficult*), which is reported by participants in all the studies, except for the male subjects in the Park (2010) study, c) item 9 "*I try to get back on track when I lose concentration*", which is used by males and females in all but the AL-Sobhani (2013) study and d) to a lesser degree item 7, "*I read slowly and carefully to make sure I understand what I am reading*."

It should be noted that *re-reading* (Block, 1986; McNamara et al., 2007; Pritchard, 1990) and *backtracking* (McNamara et al., 2007) are included in text-based strategies of a more local type for restoring comprehension breakdown. This indicates that the high use of the first strategy over others is not necessarily an optimum strategy choice. On the other hand, adjusting the reading speed or monitoring the reading pace, which are less used by students, indicate higher reader awareness of task difficulty and purpose (Malcolm, 2009; Oxford et al., 2004).

5.3 Individual strategy use by gender (RQ3)

Generally, in almost all the SORS studies in which statistically significant differences in individual strategy use between genders were found, these were in favour of women (see Appendix I). In our study, females had a higher mean in 19 out of the 30 strategies and in 6 out of the 8 statistically significant different individual strategy items. Those items, which illustrate the statistically significant higher use by females, are two problem-solving strategies, three support and one global while the two remaining strategies that are used more highly by males are global.

Females seem to make high use of 17 and moderate use of 11 strategies while males make high and moderate use of 15 and 13 strategies, respectively. Females reported low use of one global and one support strategy, while males reported low use of two support strategies. There was no overlap regarding the support strategy of low use between the female and the male students. Females have a higher mean in 7 of the 8 problem-solving strategies and in 7 of the 9 support strategies. However, in the global strategy category, males have a higher mean in 5 of the 13 strategies.

In the Poole studies, findings regarding individual strategy use differ. While in Poole (2005a) females and males make significantly higher use in only one strategy each, in Poole (2009, 2010) only females exceed males in strategy use in terms of eight and nine strategies respectively. The higher gender difference in individual strategy use occurs in Arrastia, Ayed and Elnagar's (2016) MARSI study, in which females make higher use in 21 strategies, seven of which (numbers 5, 8, 12, 15, 16, 22 & 23) have also been identified as strategies more frequently used by females in our study. In Park (2010) significant differences were found in ten items.

From the analysis of gender differences in individual strategy use, the following similarities between our study and studies conducted in different sociocultural contexts can be observed. First of all, certain key strategies that are consistently reported to be used more highly by women are also identified as significant in the following studies: Park (2010), Poole (2009), Poole (2010). These strategies are *reading aloud* (5) and *underlining or circling information* (*10)*. Other strategies, reported to be significant and also identical with the ones found in our study, are *reading slowly and carefully* (7) (Poole, 2009; 2010); *paying close attention to what I am reading* (*14)* (Park, 2010; Poole 2009); *using typographical features* (*20)* (Park, 2010; Poole, 2009); *using reference materials* (*13)* (Poole, 2009).

As informative these results may be concerning gender differences in reading strategy use, we should be aware that they are based on students' self-reported questionnaire answers. Students may "over-report strategies" (Mokhtari, Sheorey & Reichard, 2008, p. 57) through the SORS or provide answers based on their previous engagement with similar tasks (Oxford et al., 2004). Another limitation of the study is related with the validity of a "context-free", domain-general, self-report instrument, such as the SORS, as opposed to a "domain-specific" (or task-specific) measure (Wenden, 1995, p. 187). Observation of strategy use in action (in-class or individually) with a specific task in hand would provide more accurate and illustrative results.

6 Study Implications and Suggestions for future research

The present study sheds light on the relationship between gender and strategy use both in terms of total strategy categories as well as individual strategy use. The findings of the present study corroborate those of previous studies, according to which, females make higher use of reading strategies and, more specifically, concur with those identifying problem-solving strategies, support strategies or both categories as being more frequently used by females. The findings of the present study can serve as a springboard for classroom interventions in reading strategy use. For example, the SORS can be administered at the beginning of an EAP course to assess the level of awareness in reading strategy use by the students and the possible differences between genders. Subsequently, students could be made aware of the strategies they use while the instructors should point out the full range of strategies that could be used in approaching academic texts.

Perhaps the differences between genders in the total strategy categories should not be exaggerated. Rather, the pattern of individual strategy use by females and males should be investigated so that an individual reading strategy use profile for each student could be created that would be more meaningful. This could reveal, as was the case with the present study, that even though females use more strategies to a statistically significant degree, male students make higher use of two very important global reading strategies that may serve as alternatives and compensate for the lower use of other strategies. These are "I critically analyse and evaluate the information presented in the text" and "I check to see if my guesses about the text are right or wrong".

Finally, instructors should reflect whether reading strategies included in academic textbooks "consciously or unconsciously reflect one gender" (Zoubir-Shaw & Oxford, 1994, p. 204) and introduce more relevant reading strategies in their classrooms.

Different interpretations have been provided by researchers to account for gender differences as, for example, "psychological type" (Ehrman & Oxford, 1989, p. 260), with females exceeding males in the intuition and feeling dimensions of the Myers-Briggs Type Indicator; "underlying learning styles, motivations, and attitudes" (Green & Oxford, 1995, p. 291); cultural differences, influence in different spheres of life and "a need for social approval" (Oxford & Nyikos, 1989, p. 296)". Attempting to understand "why and under what conditions" gender differences originate should be, according to Phakiti (2003, p. 684), the focus of research on gender differences. This is especially significant in order for us to account for the consistent similarities in individual reading strategy use especially by females. Whatever the case may be, in the ELT context gender differences should be "recognized, respected and considered" when designing "gender-neutral but also interesting and thought-provoking" activities "for both genders" (Alexiou, 2016, p.94).

Another area of research could be the further investigation of gender differences and more specifically, the use of multiple qualitative methods such as interviews to investigate the reasons females make more frequent use of certain strategies. Is, for example, the reporting of higher use of strategies by females related to their diligence in language learning? The significance of proficiency level (Poole, 2010) that may counteract the impact of gender could also be investigated (see Rizouli & Kantaridou, forthcoming).

Gender differences in reading strategy use could be explored through the administration of an academic type of reading task that would allow us to assess whether gender differences continue to exist or are even enhanced or whether males and females choose different strategies during the completion of an actual task than the ones reported here. According to Poole (2005a, p. 17) gender differences may derive from "task demands and contextual motivation than biology".

Finally, another area that could produce interesting findings is whether gender differences in strategy use may be even more pronounced "in cultures with more gender egalitarianism" as this has been found to be the case "in many objectively tested cognitive measures" (Schmitt et al., 2017, p. 49).

Although the similarity of findings related to gender and proficiency level "across cultures is strong evidence for their generalizability" (Green & Oxford, 1995, p. 291), in order for the results of the present study to be generalizable for the Greek education context, gender differences should be investigated in other Greek higher education settings, with students from different departments and by the administration of different instruments investigating gender differences in reading strategy use.

7. Conclusion

The present study is the first one investigating the metacognitive awareness of reading strategies by Greek students in an EAP university context as well as one of the few studies investigating the relationship between gender and strategy use through the SORS. Moreover, it is one of the very few studies investigating variation in individual strategy use by gender. Therefore, the study provides valuable insights into a number of areas related to strategy use by Greek university students. Several interesting findings derive from the current study. One of the main findings is that regardless of gender, Greek EAP students are quite active reading strategy users, demonstrating a borderline moderate to high frequency of reading strategy use as evidenced by their use of more than half of the SORS strategies at a high level when dealing with academic texts, the rest at a moderate level and only

one at a low one. Another interesting finding, which confirms similar findings about EFL university students of diverse cultural and linguistic backgrounds, is the preference for problem-solving strategies by Greek students of both genders and the fact that three of the five most frequently used strategies were problem-solving ones. Moving to the findings derived by the comparison between genders, females were found to stand statistically significantly higher both in the problem-solving and support strategies as well as in one global, two problem-solving and three support strategies. The mean score in global strategies was almost the same in the two genders. Male students indicated statistically significant differences in two global strategies.

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Appendix I: Statistically significant gender differences in individual strategy use

Strategy Items	Current study	Poole, 2005	Poole, 2009	Poole, 2010	Park, 2010	Sheorey & Mokhtari, 2001
1				F	F	
2			F	F	F	
3				F		
5	F		F	F	F	
7	F		F	F		
8		F		F	F	
9					F	
10	F		F	F	F	F
13	F		F			
14	F	M	F		F	
16				F	F	
17					F	
18				F		
20	F		F		F	
21	M					
27	M					
29			F			

Appendix II. The Greek version of the SORS with the total mean and t-test results in the two genders

T-test gender	Total Mean (SD)	Male (174)	Female (185)	*t* (df=357)	*p*
1. Έχω ένα στόχο στο μυαλό μου όταν διαβάζω. GL	4.02 (.81)	4.03 (.78)	4.01 (.81)	.279	.780
2. Κρατώ σημειώσεις όταν διαβάζω για να με βοηθήσουν να καταλάβω αυτό που διαβάζω. SU	3.54 (1.17)	3.41 (1.13)	3.63 (1.17)	-1.742	.082
3. Σκέπτομαι αυτά που ξέρω για να με βοηθήσουν να καταλάβω αυτά που διαβάζω. GL	4.11 (.79)	4.17 (.69)	4.06 (.86)	1.224	.222
4. Ρίχνω μια ματιά σε ολόκληρο το κείμενο για να δω περί τίνος πρόκειται πριν αρχίσω να διαβάζω. GL	3.61 (1.14)	3.52 (1.15)	3.69 (1.14)	-1.350	.178
5. Όταν το κείμενο γίνεται δύσκολο, διαβάζω φωναχτά για να καταλάβω αυτό που διαβάζω. SU	2.83 (1.34)	2.41 (1.24)	3.24 (1.27)	-6.281	.000
6. Σκέπτομαι αν το περιεχόμενο του κειμένου ταιριάζει με το σκοπό για τον οποίον το διαβάζω. GL	3.31 (.96)	3.34 (.95)	3.30 (.98)	.465	.642
7. Διαβάζω σιγά και προσεκτικά για να βεβαιωθώ ότι καταλαβαίνω αυτά που διαβάζω. PS	4.03 (.88)	3.87 (.93)	4.18 (.78)	-3.410	.001
8. Αρχικά, ελέγχω το κείμενο προσέχοντας τα χαρακτηριστικά του όπως την έκταση και την οργάνωσή του. GL	2.99 (1.17)	2.97 (1.15)	2.99 (1.21)	-.189	.850
9. Προσπαθώ να ξανασυγκεντρωθώ όταν αφαιρούμαι. PS	4.43 (.74)	4.40 (.81)	4.45 (.70)	-.650	.516
10. Υπογραμμίζω ή κυκλώνω πληροφορίες στο κείμενο για να με βοηθήσει να τις θυμάμαι. SU	3.90 (1.16)	3.61 (1.21)	4.16 (1.02)	-4.624	.000
11. Προσαρμόζω την ταχύτητα διαβάσματός μου ανάλογα με το τι διαβάζω. PS	3.73 (.91)	3.71 (.91)	3.76 (.90)	-.516	.606
12. Όταν διαβάζω, αποφασίσω τι θα διαβάσω προσεκτικά και τι θα αγνοήσω. GL	3.25 (1.11)	3.22 (1.13)	3.24 (1.11)	-.164	.870
13. Χρησιμοποιώ βοηθητικές πηγές (π.χ. λεξικό) για να καταλάβω καλύτερα αυτό που διαβάζω. SU	3.06 (1.09)	2.90 (1.10)	3.22 (1.05)	-2.804	.005
14. Όταν το κείμενο γίνεται δύσκολο, εστιάζω περισσότερο σε αυτό που διαβάζω. PS	4.19 (.79)	4.09 (.76)	4.27 (.80)	-2.146	.033
15. Χρησιμοποιώ τους πίνακες, τα γραφήματα και τις εικόνες για να κατανοήσω καλύτερα το κείμενο. GL	3.59 (1.10)	3.66 (1.02)	3.58 (1.13)	.722	.471
16. Σταματώ κατά διαστήματα για να σκεφτώ αυτό που διαβάζω. PS	3.39 (1.04)	3.40 (1.06)	3.39 (.99)	.071	.944
17. Αντλώ πληροφορίες από τα συμφραζόμενα για να καταλάβω αυτό που διαβάζω. GL	4.06 (.84)	4.07 (.80)	4.05 (.87)	.233	.816
18. Παραφράζω (επαναδιατυπώνω τις ιδέες με δικά μου λόγια) για να καταλάβω καλύτερα αυτό που διαβάζω. SU	3.32 (1.10)	3.23 (1.11)	3.41 (1.09)	-1.551	.122

19. Προσπαθώ να φανταστώ με εικόνες τις πληροφορίες του κειμένου για να θυμάμαι αυτό που διαβάζω. PS	2.99 (1.26)	2.87 (1.28)	3.09 (1.25)	-1.627	.105
20. Χρησιμοποιώ τυπογραφικά στοιχεία, όπως έντονα ή πλάγια γράμματα για να αναγνωρίσω σημαντικές πληροφορίες. GL	2.94 (1.24)	2.78 (1.27)	3.16 (1.15)	-3.015	.003
21. Αναλύω με κριτική σκέψη και αξιολογώ τις πληροφορίες που παρουσιάζονται στο κείμενο. GL	3.57 (.94)	3.66 (.92)	3.44 (.96)	2.182	.030
22. Ξαναδιαβάζω σημεία που έχω διαβάσει ή πάω και παρακάτω στο κείμενο για να βρω σχέση ανάμεσα στις ιδέες. SU	3.84 (.92)	3.88 (.86)	3.79 (.97)	.871	.384
23. Ελέγχω αν καταλαβαίνω όταν συναντώ νέες πληροφορίες. GL	3.96 (.80)	3.93 (.71)	3.94 (.89)	-.111	.912
24. Προσπαθώ να μαντέψω το περιεχόμενο του κειμένου όταν διαβάζω. GL	3.18 (1.13)	3.29 (1.15)	3.12 (1.12)	1.401	.162
25. Όταν το κείμενο γίνεται δύσκολο, το ξαναδιαβάζω για να το καταλάβω καλύτερα. PS	4.47 (.72)	4.41 (.72)	4.54 (.68)	-1.714	.087
26. Θέτω στον εαυτό μου ερωτήσεις που θα ήθελα να μου απαντηθούν στο κείμενο. SU	2.36 (1.07)	2.43 (1.10)	2.31 (1.03)	1.041	.299
27. Ελέγχω για να δω αν οι προβλέψεις μου για το κείμενο είναι σωστές ή λάθος. GL	2.61 (1.10)	2.72 (1.15)	2.48 (1.05)	2.085	.038
28. Όταν διαβάζω, μαντεύω το νόημα των άγνωστων λέξεων ή φράσεων. PS	3.66 (.97)	3.63 (1.01)	3.70 (.94)	-.688	.492
29. Όταν διαβάζω, μεταφράζω από τα αγγλικά στη γλώσσα μου/στα ελληνικά. SU	3.49 (1.22)	3.42 (1.27)	3.55 (1.17)	-.977	.329
30. Όταν διαβάζω, σκέπτομαι τις πληροφορίες και στα αγγλικά και στη γλώσσα μου/στα ελληνικά. SU	3.51 (1.09)	3.45 (1.09)	3.56 (1.11)	-.977	.329

APPENDIX III: Most and least used SORS strategy items by gender

Most used SORS strategy items by gender											
Current study		AL-Sohbani, 2013		Poole, 2005		Poole, 2009		Poole, 2010		Park, 2010	
M	F	M	F	M	F	M	F	M	F	M	F
PS-25	PS-25	PS-25	PS-25	PS-14	PS-25	PS-9	PS-9	PS-7	PS-7	PS-25	SU-10
PS-9	PS-14	PS-14	PS-14	PS-25	SU-10	PS-25	SU-13	PS-9	PS-9	SU-10	PS-25
GL-3	PS-9	GL-24	SU-10	PS-9	PS-9	PS-14	PS-14	PS-14	GL-3	PS-9	PS-9
PS-14	GL-1	PS-19	GL-23	PS-7	PS-14	GL-3	PS-7	PS-25	PS-14	PS-28	PS-14
GL-17	SU-10	SU-18	PS-28	PS-11	PS-11	PS-7	SU-10	GL-3	PS-25	GL-15	GL-20
Least used SORS strategy items by gender											
PS-19	GL-24	SU-2	SU-5	SU-18	GL-6	GL-21	GL-12	GL-20	GL-24	GL-6	SU-30
GL-20	PS-19	GL-3	SU-29	SU-26	GL-21	PS-19	GL-6	GL-12	PS-19	GL-21	SU-29
GL-27	GL-8	GL-23	SU-22	GL-8	SU-2	GL-20	PS-28	SU-2	GL-17	SU-2	SU-18
SU-26	GL-27	GL-8	GL-17	SU-5	SU-26	SU-26	GL-21	SU-5	PS-28	SU-26	GL-21
SU-5	SU-26	GL-12	GL-24	SU-2	SU-5	SU-5	SU-26	SU-10	GL-12	SU-5	SU-26

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Teaching English to deaf/hard of hearing students in primary education: A suggested methodology

Giasemi Seliami & Maria Stathopoulou

The paper focuses on the area of teaching English to deaf and/or hard of hearing students and investigates whether and the extent to which these students in special primary education can be taught English. It presents a part of the research conducted within the framework of the postgraduate programme 'The Teaching of English as a Foreign/International Language' of the Hellenic Open University (Seliami, 2021). The research project was conducted in two phases with a combination of a qualitative and a quantitative approach. Specifically, during Phase 1 (observation phase), the study explored the methods that the teachers of a Special School in Athens, Greece, applied in vocabulary teaching, reading comprehension, and writing production. Diaries were kept for this purpose. In Phase 2, a questionnaire was completed –not only by the school teachers- but generally by teachers who specialise in teaching students with hearing impairment. For the purposes of the research, the findings from Phase 2 were analysed in combination with the results of the observation phase to create a syllabus for the teaching of English for deaf and hard of hearing students. However, this paper focuses on the Phase 2 results regarding teachers' strategies and methods when teaching the particular group of students as derived from the online questionnaire. Teaching ideas for future reference are provided at the end of the paper which may give confidence to pre and/or in-service English teachers who usually feel frustrated and discouraged from teaching deaf and hard of hearing students to carry out this challenging task.

Key words: deafness, hearing impairment, primary education, vocabulary development, reading and writing production

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1. Introduction

Marschark and Spencer (2009, p. xiii-xi found in Csizér and Kontra (2020, p. 234) inform us that the term 'hard-of-hearing' is used to refer to a hearing loss at a level that significantly limits but does not preclude perception of spoken language through audition alone. On the other hand, the term 'deaf,' refers to "the condition of having a hearing loss in the severe-to-profound or profound range" and to a "member of a community that uses a Sign Language and shares a common bond of identity" (ibid).

In addition to these definitions, according to Paul & Whitelaw (2010) hearing loss is grouped in five categories: normal, slight and mild where the person is defined as hard of hearing with a degree of hearing loss up to 54 in dB (the measurement unit of hearing loss). If the hearing loss appears to be 55-69 dB (moderate hearing loss), the person may need a special class and treatment whilst if the hearing impairment is more than 90 dB the hearing loss is severe and the person is considered to be deaf. Deafness has an effect on language which the deaf and hard of hearing need to acquire in order to cultivate certain communicative skills (Hall et al, 2019) with the use of sign language as deaf and hard of hearing L1 or the officially spoken as an L2 (ibid). In this case, the deaf and hard of hearing people are commonly considered to be bilingual or multilingual and the development of their literacy skills are questionable as the difference in grammar and syntax raises questions as far as the transfer of information between the two languages (Pozos, 2014). Furthermore, the hearing deficit leads the deaf and hard of hearing students (D/HH henceforth) to a lack of any phonological awareness (i.e., the ability to recognize and manipulate the spoken parts of words and sentences). Consequently, D/HH students may make lexical, grammatical or syntax errors (Seliami, 2021; see also Kontra, et al. (2015) for a detailed clarification of terminology).

In this framework, teaching English to D/HH can be considered a difficult task not only for the students but also for the teachers who may not be trained to teach English to this group of students. As Csizér and Kontra (2020, p. 235) inform us, there is some research available that "can guide teachers, curriculum designers, and policy makers in non-English speaking countries" but the problems (cf. Khasawneh, 2021) that a teacher of English has to face needs to be considered. In this respect, the current research attempts to investigate whether and the extent to which D/HH students in primary education can efficiently be exposed to the English language and whether English can actually be taught to them. Taking into account that language institutions and sign language scholars aim at reinforcing D/HH students throughout both as students and later on, as adults (Marschark & Spencer, 2016) while interacting with people all over the world, the research, which focused on the Greek context, attempted to investigate which strategies and methods can be applied while D/HH students are taught English. The productive and receptive skills such as reading and writing they can acquire are, also, under investigation.

As Seliami (2021) suggests, the inclusion of D/HH students by specialists who work in Special Education in the design of syllabi is of crucial importance to the teaching of English as an L3. Unfortunately, up to recently, D/HH students were now taught English in Greek Special Primary Schools, which is the context of the study presented in this paper, since there were no English teachers certified in sign language while the teaching of a foreign language was considered as a burden. This is a gap that the current research attempted to address. Phase 1 involved an observation of the teaching practice in order to explore the methods that the teachers of a specific school in Athens, Greece, applied to vocabulary teaching, reading comprehension, and writing production. Diaries were kept for this purpose. In Phase 2, a questionnaire was given to teachers who work with D/HH students. The findings from Phase 2 were analysed in combination with the results from the observation phase with a view to creating a syllabus for the teaching of English for D/HH students. However, this paper focuses only on the questionnaire results and summarises teachers' strategies and methods when teaching the particular group of students.

2. Teaching Deaf and Hard of hearing students

2.2. Characteristics of D/HH students

Niemann et al. (2004) explain the effect of hearing impairment mainly in relation to difficulties understanding the world and in expressing their inner world. Certain skills such cognitive, language or social, are affected and consequently social interactions become restricted and many people have

feelings of isolation and loneliness. It is thus crucial to recognize the hearing impairment the earliest possible; otherwise the child will miss important educational experiences–meaning any interaction where learning and socialising can take place (Pagliano, 2005).

According to Lehrer (2016), there is a growing interest for early intervention programs for D/HH students' intellectual development (Bornstein & Tamis-Lemonda, ¬1989) in order for children to reach a level of appropriate language and cognition as they enter primary school. These are basic for the acquisition of the core knowledge and skills for communication and interaction (Hitchins & Hogan, 2018). Teaching English to D/HH students in non- English speaking countries has proven to be a challenging and demanding task. As Cameron (2003) puts it, English should be introduced to special primary schools since early exposure to language can enhance language acquisition (Lehrer, 2016). Within this framework, the English teacher in an EFL classroom with D/HH students is vital to develop their motivation (Csizer & Kalman, 2019) and should show helpfulness, empathy, care and patience, both as a person and as an educator.

2.2. Effective educational approaches and teaching methods

In order to teach D/HH students, one must be able to use sign language in the visual-gesture modality, relying mostly on the use of hands, facial expression and the upper torso. Sign language, a language with its own structure and grammar, is of crucial importance for D/HH students in their everyday communication. In fact, for some D/HH children, it is their first language (Seliami, 2021) while the contact with fluent signers can facilitate the access to language acquisition (Kontra and Csizer, 2013; Staden, 2009). D/HH students who are exposed to a code-blending system of communication, comprising sign language and the official spoken language through speech, can reduce the communication and social barriers that D/HH face in every day interaction (ibid).
In special education, 'differentiated instruction' focusing on the individual's needs in comparison to the group's dynamics (Kaufmann et al. 2017) is a frequently adopted approach. Small classes facilitate learning as the teacher can monitor the D/HH students' performance and thus provide them with immediate feedback. Differentiated teaching is based on the students' characteristics, needs and styles and aims at enhancing their achievements (Lou et al, 1996; Reis et al, 2011 as cited in Marschark et al, 2016). In the case of D/HH students, emphasis is placed primarily on the development of their phonological awareness (Kyritsi & James & Edwards, 2007a, 2008, 2007b as cited in Seliami 2021) through word recognition and dictation.

Through mental imagery and visualisation, D/HH students form pictures in their minds -with the aid of the other senses such as taste, sound or touch (Schrimer, 1995). Images can be a useful tool in language understanding since they depict what the eye can see and help the D/HH students to make associations with the real world. Matching activities of pictures, sounds or symbols thus seem to be more helpful than the direct exposure to whole stories at once (Liu et al, 2014). In the case of DHH, non-verbal language is superior to verbal language (Obosu et al, 2013). Taking into account that visualisation facilitates learning in D/HHs' education, assistive and instructional technology can improve the students' language and cognitive skills. For instance, the use of instructional games, software boards, videos, or multimedia based simulation are tools that the teacher can make use of (cf. Lidstrom & Hemmingsson, 2014).
Last but not least, presenting effective learning strategies to learners as well as acquainting them with autonomous ways of practising the target language should be incorporated in the teaching practices (Csizér and Kontra, 2020).

3. The study: aim, context and method

The study focused on a relatively unexplored area, that of teaching English to D/HH students and investigated whether and the extent to which these students can effectively develop certain skills such reading or writing at an A1 level in English as an L3. The research questions addressed are:

1. What methods, tools and strategies teachers of D/HH students apply in a specific primary education special school?
2. Through what types of techniques do teachers develop these students' vocabulary, reading comprehension and writing production skills in English?

To that end, the study was conducted in two phases, and the data gathered from both stages were analysed in relevance to the strategies that were used while teaching D/HH students. As already stated, the first phase of the research (observation phase) took place in the Special Primary School for D/HH students in Argyroupoli. Thirty-two (32) students attended the school during the 2020-2021 school year. Twelve (12) permanent and substitute teachers, worked at the school, alongside with a Physical Education teacher, an English teacher who conducted the survey and an Information Communication Technology teacher. During Phase 1, the study explored the methods that the teachers apply (with respect to the students' learning styles and preferences) regarding vocabulary development, reading comprehension, and writing production as well as the students' attitude and behaviour during the learning process. All these aspects were noted down in diaries which were kept daily. In parallel, an interview with the school psychologist, who provided useful information regarding the students' sociocultural background, took place. The students who were observed were twenty (20) in total, four (4) girls and sixteen (16) boys aged from seven (7) to twelve (12) (Seliami, 2021). The learners formed two groups of six (6) and fourteen (14) students with their hearing ability as the basic criterion.

The second phase involved the design and distribution of an online questionnaire which was completed by 30 teachers who worked with D/HH students. Generally, 40% of the teachers had worked in general primary schools for up to 5 years. The majority of them had 6 to 30 years of experience. The questionnaire was designed on Google Forms and the questions were based on a 5-point Likert scale ("I strongly agree", "I quite agree", "I agree", "I quite disagree", "I disagree". It, also, contained open-ended questions providing us with unlimited information and unexpected insights regarding aspects which were not addressed through the closed questions (see Appendix). The questionnaire consisted of two main parts. In the first part, it included some demographic questions on the level and the working experience of the participants, while the second part was divided into four sections addressing vocabulary, grammar, reading comprehension and writing production teaching (see Appendix). It was piloted by teachers who teach Greek and was checked for both its reliability and validity. The findings derived from the questionnaires were analysed in combination with the results from the observation phase (see also Seliami, 2021).

4. An overview of findings

Taking into account the results from both phases of the survey, one can draw useful conclusions regarding both the teaching of the Greek and the English language to D/HH students. However, this paper focuses on the responses of the teachers who participated in the research through a questionnaire (Phase 2) (see Appendix, parts B-D). The section below presents the main results which focus on the three areas of investigation: vocabulary building and the development of reading and writing ability.

4.1 Vocabulary development

Regarding vocabulary teaching, the participants stressed the need for the development of students' phonological awareness (Webb & Ledeberg, 2013) as an important element for language acquisition.

According to the participants, phonemic awareness can be achieved through the visualisation of the word and the use of technology. Since learning a new word directly is difficult for D/HH students, the connection with visual aids and prior acquired vocabulary can contribute to the acquisition of new vocabulary (Gallion, 2016). This finding has also been confirmed by Birinci & Saricoban (2021) who investigated the effectiveness of using visual materials in teaching vocabulary to 80 deaf students of EFL from a state special education vocational high school in Turkey. They actually found that in teaching lexical items to deaf learners who learn English as an additional language, visuals were more efficient than using just the sign language.

The findings of our research also indicated that the teachers turn to speech reading (when someone with hearing impairment watches the speaker's mouth and face in order to understand what the speaker is saying) to teach vocabulary as well (Seliami, 2021). Some of the participants' suggestions for vocabulary building included role playing, dramatisation, group words, words in sentences so that they can be used in context (ibid).

4.2 Developing reading comprehension

The second section of the questionnaire focused on the teaching of the reading skill. Regarding reading comprehension, the findings showed that the participants monitor the students' performance throughout the teaching process through question and answer activities thus confirming previous research results (see Benedict et al, 2015).

The participants also stated that they should incorporate texts relevant to the students' level and interests in order to motivate them to take part in the learning process. Finally, the teachers stressed the benefits of experiential learning, dividing a text into parts, providing side heads and creating intersectional activities such as comprehension questions, or the provision of a summary stating the main points of each paragraph of a text. These activities will help the teacher understand whether the students can acquire the necessary inferential and affective information in the pre- and while reading stage and the extent to which they can use it during the after reading process.

4.3 Developing writing production

The last part of the survey focused on writing production. The results showed that the teachers follow the strict structure of the sentence Subject –Verb-Object. Each sentence is based on vocabulary, grammar and notions the students are familiar with, in order to encourage them to produce very simple sentences which they can negotiate according to their level.

The majority of the teachers who participated in this study claimed that they use classifiers (for instance, the word "huge" is used to describe an object to determine the size of it) and adverbs only when they are certain that the students are aware of their use and their place in the sentence (Seliami, 2021). The findings showed that the participants advocate experiential learning and that is why they urge their students to produce sentences with basic structures such as Subject-Verb-Object.

As for substitute clauses or clauses in the passive voice, according to the teachers, these are structures that the D/HH students do not feel confident to use. Furthermore, the participants support that the use of mind maps for writing production as a brainstorming technique led to the production of ideas. Dramatisation, or role-playing, are strategies that teachers also employ in the teaching of writing with the majority agreeing that they constitute effective ways of teaching D/HH students in primary education.

5. Implications for the teaching of English to Greek D/HH primary school students

The results of this survey can guide pre- and in-service English teachers who intend to work with D/HH students in primary education, while designing a lesson and delivering it in class.

Vocabulary can be presented through pictures, charts or videos which, as this study has indicated, can be highly motivating for learners. Multimodality is actually a core element when teaching English to D/HH students (Kusters et al, 2015). Regarding vocabulary personalization (creation of learning outcomes based on individuals' traits), the lexical items that are taught should be relevant to the students' needs, interests and preferences. Also, the words that learners are exposed to should be used in everyday interaction, as this can contribute to the assimilation of a greater number of words. It is common for D/HH students to substitute words or structures with those they are familiar with or words that they sign in their everyday communication in simple sentences (S-V-O) since according to Albertini & Schley (2003), deaf learners are primarily visual learners. Another strategy for boosting learners' vocabulary development can be vocabulary emotionalization (Semiami, 2021). When students feel familiar with a word or a notion, they can emotionally bond to them and wish to put them into practice. By working with the acquired vocabulary as well as revising prior knowledge, new vocabulary can be learnt. As Zysk and Kontra suggest (2016), emphasis is placed on using the old and new vocabulary in social contexts in contrast to the traditional way of being exposed to isolated sets of words. Inferencing and guessing are also two of the strategies that are applied when teaching D/HH students.

As far as grammar is concerned, complex items such as the use of classifiers should not be attempted (Dewi et al, 2019) and activities should be such that keep learners interested. D/HH students in primary education tend to use the strict structure S-V-O and they are less familiar with comprehending structures such as converting sentences into questions, passive forms, or joining two sentences into one with the use of a pronoun (Berent, 2011). D/HH students are familiar with the sentence "He washes the car" but when it comes to ''Does he wash the car?'' or "The car is washed", things become more complicated (Seliami, 2021), an aspect that the teacher should be aware of. In addition to this, D/HH students find it difficult to associate a written word with its spoken form (Zysk & Kontra, 2016). According to Marschark (2006), the mistakes they make regarding reading and writing were the same as those that their hearing peers made while learning English as a foreign language.

Regarding writing, the fact that D/HH students lack a wide range of vocabulary and their weakness to express their ideas, make it difficult to elaborate on complex ideas (Brokop & Persall, 2009). They actually tend to use fewer and simpler words than their hearing peers. Writing development can be achieved through purposeful writing. Moreover, brainstorming through mind mapping can be incorporated in every step of the writing process. Experiential learning is encouraged by using their personal experiences for meaning making throughout the writing process. Students' vocabulary can be enhanced through the use of technology such as powerpoint presentations or videos which in turn can lead to effective writing production. Mapping/matching activities activate schemata and prior knowledge that can be used in context. It is suggested that instructions be given in printed form so that the students can resort to them as many times as they wish.

6. Conclusion

This research has focused on the teaching of English to D/HH students in primary education with a view to developing their vocabulary, reading and writing skills. D/HH students in primary education can actually become basic users of the language. Through one–to-one teaching in small sized classes, the students are usually provided with constant encouragement and feedback. They can thus be successful both in reading comprehension and writing production although the difficulties linked to these two aspects of language learning and use, are not limited (cf. Kontra et al., 2015). We hope that

the conclusions of this study will encourage pre- and -in service English teachers to work with D/HH students in primary education. What has to be pointed out, however, is that further research should be conducted, and a curriculum targeting these groups of students must be designed, which curriculum should take into account their preferences and interests (Seliami, 2021). Teaching English to D/HH students is still a challenging but not discouraging task for English teachers who will be called to help learners adapt in a globalised society. Besides, the deaf community has stressed the necessity for the teaching of English to this group of students as an international language in order for them to be more efficiently integrated into society and have the same benefits as the hearing students of their age (Zysk & Kontra, 2016 as cited in Seliami, 2021). Last but not least, we should refer to the crucial role of teacher training. It seems necessary that FL teachers of D/HH learners be given pre- or in-service training opportunities where methods and materials can be shared (cf. Kontra, et al, 2015).

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Syntactic pattern density, connectives, text easability, and text readability indices in students' written essays: A Coh-Metrix analysis

Tlatso Nkhobo & Chaka Chaka

Abstract

This study sets out to investigate the four main linguistic categories (i.e., syntactic pattern density, connectives, text easability, and readability) together with their related sub-categories and indices in first-year undergraduate university students' written argumentative essay responses as analysed by Coh-Metrix. Employing a mixed-methods approach, the study utilised these written essay responses (n = 14 text files in two equal sets) as its corpora. Four of the findings of this study are worth mentioning. Firstly, concerning syntactic pattern density, all text files exhibited a high incidence of noun phrase density and verb phrase density. Secondly, both sets of text files displayed a lower usage incidence of adversative and contrastive, expanded temporal, and temporal connectives. Thirdly, regarding text easability, most text files in the first set and all text files in the second set had a low narrativity incidence. Fourthly and lastly, both the Flesch-Kincaid Grade Level and Coh-Metrix L2 Readability scores were low for both data sets.

Keywords: Coh-Metrix; students' written essay responses; syntactic pattern density; connectives, text easability; text readability.

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1. Introduction

Advances in online technologies has enabled researchers to study massive datasets within a short period of time using online corpus linguistics software tools such as WMatrix (Howlett, 2019; Miura, 2020; Moghadam & Samar, 2020), AntConc (Papangkorn & Phoocharoensil, 2021; Ulfa & Muthalib, 2020), and AntWordProfiler (Halim, 2018; Indarti, 2021) in the process of analysing student writing samples. The main focus of the current study is to analyse students' written essay samples in terms of syntactic pattern density, connectives, text easability, and readability indices as generated by Coh-Metrix (see Azadnia et al., 2019; Graesser et al., 2014; Granados & Lorenzo (2021; McCarthy et al., 2006; Srisunakrua & Chumworatayee, 2019; Westerlund, 2019).

McNamara et al. (2010) define Coh-Metrix as a corpus analysis tool that is able to show cohesion and text difficulty at word and sentence levels in a written text. There has been an increasing number of researchers who have incorporated Coh-Metrix in their studies to analyse student writing samples (Chon & Shin, 2021; Kiselnikov et al., 2020; Latifi & Gierl, 2020; Mahadini et al., 2021; McNamara et al., 2010; Wang et al., 2021; Westerlund, 2019). Corpus linguistics is a strand of linguistics that deals

with corpora (McEnery & Wilson, 1996) by employing some of the corpus tools like the ones mentioned above. Infused into it is student writing analytics (Benetos & Bétrancourt, 2015; Conijn et al., 2018; Xu & Xia, 2019), which involves learning analytics through which student writing samples can also be analysed using some of the online software tools mentioned above.

Fourteen student writing samples (especially written essay responses) were used in the current study. They were retrieved from the Assignments Department for students registered for an undergraduate module, Academic Language and Literacy in English (ENG1503), offered by the Department of English Studies at an open and distance e-learning (ODeL) higher education institution in South Africa, in 2020. The main aim of this study is to analyse students' written texts through an online corpus linguistics software tool, Coh-Metrix, in terms of the syntactic pattern density, connectives, text easability and readability indices. The aforementioned tool has been employed in the South African higher education context to investigate students' written texts in few research studies. Therefore, the current study seeks to answer the following research questions:

- What is the frequency of the syntactic pattern density and connectives in students' written essay responses to Topics 1 and 2 as analysed by Coh-Metrix?
- What is the text easability and readability indices of students' written essay responses to Topics 1 and 2 as rated by Coh-Metrix?

2. Related Literature Review

2.1. Writing analytics

Consistent with the aim of the current study, which is to analyse students' written essay samples in terms of the usage incidence presented by means of syntactic pattern density, connectives, text easability and readability indices as displayed by the Coh-Metrix analysis software tool, writing analytics forms a significant part of this study. The aforesaid online software tool comprises algorithms that analyse student writing in terms of syntactic pattern density, text easability, and readability indices, which may not generate the same results as the other online software tools such as AntConc, WMatrix and AntWordProfiler due to their different algorithm configurations. In this instance, the studies conducted by Halim (2018) and Indarti (2021) employed AntWordProfiler in order to analyse student writing readability levels. The findings of both studies revealed that the readability indices of students' writing in each case varied slightly. For example, Halim's (2018) study discovered that the lexical richness of undergraduate students' written theses was low because their type token ratio (TTR) was represented below 1 as represented by the AntWordProfiler readability indices. This study attributed its findings to the repetitive vocabulary that students used in their written theses.

Similarly, Indarti's (2021) study found that female and male students' writings in the three semesters did not yield type token ratio (TTR) that was above 1. For instance, female students' TTR ranged from 0.55 to 0.60 across the three semesters. The study also established that male students' writing TTR ranged from 0.55 to 0.58 in the same three semesters. Overall, the findings of these two studies indicated that students did not use different vocabulary items in their written texts; hence the TTR scores that were below 1. This meant that the lexical richness of their respective students' written texts was low. In another scenario, Papangkorn and Phoocharoensil's (2021) and Ulfa andMuthalib's (2020) studies employed AntConc to investigate the similarities and differences of metadiscourse markers and lexical bundles that English (native) and L1 Thai speakers used in English argumentative texts. The two studies did so because AntConc is not configured to analyse and gauge the readability levels of written essays as employed in the current study. Papangkorn and Phoocharoensil's (2021) study found that the use of metadiscourse markers and participant-oriented bundles varied in terms

of their frequencies of use as represented by AntConc in both English (native) and L1 Thai students' written texts.

Furthermore, WMatrix was employed in AlZahrani and Othman's (2019) study to investigate the use of tense-aspect amongst Arabic-speaking EFL learners, whose written essays were compared. The study discovered that the use of progressive and activity verbs was statistically significant in students' written essays. WMatrix has also been used in other studies to investigate other aspects of English language usage in written texts. For example, Miura (2020) used it to examine verb usage, while Howlett (2019) and Moghadam and Samar (2020) employed it to investigate multi-word expressions and metaphor identification, respectively.

Writing analytics is part of learning analytics, and comprises, in this study, various data related to student writing that could be computationally analysed using writing software tools. As a subset of learning analytics, writing analytics is enhanced by corpus analysis software programmes in order to assess written data with the speed and efficiency that the human mind cannot process. Several studies have been conducted using this process, and many deployed keystroking to analyse and assess student writing for different purposes in teaching and learning (see Allen et al., 2016; Barkaoui, 2019; Benetos & Bétrancourt, 2015; Chaka & Nkhobo, 2019; Conijn et al., 2018; Conijn et al., 2019; Fontaine & Aldridge-Waddon, 2015; Gánem-Gutiérrez & Gilmore, 2018; Guo et al., 2019; Leijten et al., 2019; Nkhobo & Chaka, 2021; Sinharay et al., 2019; Van Waes et al., 2019; Xu & Xia, 2019).

In one instance, Guo et al. (2019) investigated the sub-group writing processes that selected participants applied as they produced written essays. A semi-Markov model was used for writing sequence. The students were requested to write an argumentative essay and perform other written tasks. Keystroke logs were used to model the writing processes of the participants on the same written task. The researchers focused on how long students paused and edited, and how long it took them to produce written texts. They found significant writing processes among the chosen groups. Students with a lower socio-economic status and black students showed lower efficiency in producing texts, compared to their counterparts with a higher socio-economic status and white students. Female students, compared to their male counterparts, were more fluent, and showed advanced typing skills. They also used more complex words and spent more time producing texts and editing. This is an indication that students at higher education institutions (HEIs) should be encouraged to structure and produce texts related to a given subject matter.

In another study, Fontaine et al. (2015) investigated the writing processes of 20 second-year students at Cardiff University. The students had to produce written texts: a Facebook message and a short-written essay. The aim of the study was to determine if the chosen participants employed different writing processes. The participants were all first-language English speakers and had been using a keyboard for the past six years. They were given seven minutes to complete each task. The researchers observed that writers with high keyboard efficiency edited their texts more. The students with low keyboard efficiency were more concerned about judgement and made more changes to their writing. The students employed similar writing processes in writing a Facebook message as they did producing a short-written essay. The challenge for many students at HEIs, especially those at the ODeL institution under study, is that a considerable number of them lack computer literacy skills, and this adds to the deficit view held by most academic literacy conformists and traditionalists. This implies that some students may not have the necessary resources for out-of-school literacies that would equip them with the required skills to thrive in teaching and learning situations at an ODeL institution such as the one which is part of this study.

Barkaoui (2019) conducted a study that utilised keystroke logs in investigating second language (L2) students' teaching and learning. He employed keystroke data from his two earlier studies (Barkaoui,

2014, 2015) to examine the forms of cognitive processes that sixty-eight (68) L2 students displayed in their keyboard skills. These skills pertained mainly to both pausing tendencies and L2 mastery when these students generated their own written texts. Two Test of English as a Foreign Language (TOEFL) tests, which consisted of computer-based writing tasks, were administered to these students. Three of the findings that emerged from this study are: students' overall pausing patterns did not vary significantly in relation to keyboard skills and L2 mastery; students who displayed significantly higher keyboard skills and L2 mastery needed lesser time to accomplish their written tasks; and students with a higher-order transition spent shorter pauses within paragraphs, while the converse was true for students who evinced a low-order transition. These findings can better help distance education HEIs understand how to allot the time their students might need for them to carry out pedagogical tasks as students tend to perform their tasks at varying learning rates.

2.2. Coh-Metrix

Many studies have focused on the use of the Coh-Metrix corpus analysis software for investigating students' written samples pertaining to text easability, referential cohesion, lexical diversity, connectives, syntactic complexity, syntactic pattern density, word information, and readability. Among these studies are the following: Chon and Shin (2020); Chon et al. (2021); Crossley and Kyle (2018); Dela Rosa and Genuino (2018); Granados and Lorenzo (2021); Kiselnikov et al. (2020); Kremzer (2021); Latifi and Gierl (2021); Lim (2019); MacArthur et al. (2018); McNamara et al. (2010); McNamara et al. (2013); Nasseri and Thompson (2021); Perin and Lauterbach (2016); Wang et al. (2021); Westerlund (2019); and Xu and Tang (2020). The contention of the present study is that the use of corpus analysis software tools such as Coh-Metrix can lead to a paradigm shift in which higher education student writing is not necessarily conceptualised from a deficit perspective (see Nkhobo & Chaka 2021).

McNamara et al.'s study (2013), which took place at the Mississippi State University, examined how linguistic, cohesive, and rhetorical features function in persuasive essay writing. In this study, 313 timed-essays were collected and assessed. One of the key findings of this study is that the quality of essay writing is commensurate with essay length, lexical specificity, lexical diversity, and syntactic complexity. Another study, Chon et al.'s (2021), investigated the importance of machine translation (MT) in L2 writing. Its 70 participants were native speakers of Korean, who were also L2 speakers of English. All of them were college of education students, who majored in English Language Teaching (ELT). They had to write 300-word English composition essays based on anecdotal pictures. The study discovered that MT enabled participants to produce sentences that were syntactically more complex. Another study by Wang et al. (2021) set out to assess the use of Coh-Metrix indices for scoring essay difficulty levels. The essays, which were clustered (cluster 1, cluster 2 and cluster 3 essays), were sourced from south-eastern region schools in the United States. One finding of this study is that cluster 1 and cluster 2 essays had higher readability scores. This meant that these particular essays displayed simpler structures. By contrast, the study discovered that cluster 3 essays exhibited a lower mean percentile, which showed that such essays consisted mainly of complex and unfamiliar structures. The main aim of the current study is to analyse students' written texts by means of the online software tool, Coh-Metrix, by investigating syntactic pattern density, connectives, text easability and readability indices as presented in students' written essays. As mentioned earlier, there are limited research studies conducted in the South African higher education context in which Coh-Metrix has been employed to analyse students' written texts. So, the current study serves to contribute to this paucity of research.

2.3. Student writing samples and readability indices – Coh-Metrix

Several studies have analysed Coh-Metrix readability indices. Some of these studies include Crossley et al. (2011), Dela Rosa and Genuino (2017), Elgort (2017), Mahadini et al. (2021), McCarthy et al. (2022), Zeng and Shen (2016), and Zhao (2014). Other studies that have employed Coh-Metrix to generate readability indices in written texts include those conducted by Chon and Shin (2020), Crossley and McNamara (2014), Kiselnikov et al. (2020), McNamara et al (2010), and McNamara et al. (2013).

One study, that of Elgort (2017), utilised Coh-Metrix to analyse written texts generated by postgraduate students by means of academic blog posts and written assignments. It was undertaken within 10 weeks under the auspices of a Master's programme in Applied Linguistics and Teachers of English to Speakers of Other Languages (TESOL, and comprised 38 participants based in East and Southeast Asia. This study found that student blog posts were readable and displayed a better sense of agency than written essays. It also discovered that student blog posts manifested less complex textual and lexical structures. In another study by McCarthy et al. (2022), Coh-Metrix and Gramulator were employed to analyse and evaluate linguistic structures in counter-argument paragraphs in 78 student argumentative essays. The paragraphs were analysed and evaluated for the readability and writing quality as generated by Coh-Metrix. One of the findings of this study is that both support paragraphs and counter-arguments did not differ much in their readability and writing quality. Based on this, McCarthy et al. (2022) contend that the paragraphs generated by students displayed some degree of consistency

Likewise, in the study conducted by Zhao (2014), Coh-Metrix was used to investigate the readability indices of written texts by comparing the lexical cohesion of both Chinese EFL learners and English native speakers. The written texts spanned three years at an undergraduate level of study but involved several distinct disciplines at the Huanghuai University in China. The study's prediction was that higher lexical syntactic analysis indices equated with higher readability of the text. Conversely, it predicted that low LSA indices amounted to text complexity and difficulty. In the current study, Coh-Metrix was used to generate the readability indices students' written essay responses.

3. Research Methodology

As mentioned earlier, the main aim of this study is to analyse students' written texts through Coh-Metrix, by investigating syntactic pattern density, connectives, text easability and readability indices as presented in students' written essays. Again as mentioned earlier, there is limited research conducted in the South African higher education context in which Coh-Metrix has been employed to analyse students' written texts. So, the current study serves to contribute to this paucity of research and to fill the existing gap. It does so by seeking to answer the following research questions:

- What is the frequency of the syntactic pattern density and connectives in students' written essay responses to Topics 1 and 2 as analysed by Coh-Metrix?
- What is the text easability and readability indices of students' written essay responses to Topics 1 and 2 as rated by Coh-Metrix?

3.1. Study design

The present study was exploratory in nature (cf. Heigham & Croker, 2009; Riazi, 2016). As a result, it investigated syntactic pattern density, connectives, text easability, and readability as its key linguistic categories by analysing them through Coh-Metrix. It also examined the related sub-categories and indices. Riazi (2016) points out that exploratory research is undertaken with a view to investigating new and unexplored phenomena. This view is supported by Leavy (2017), who maintains that exploratory research is useful in investigating less-researched topics.

Exploratory research was appropriate for the current study, as very few studies have investigated linguistic categories displayed in student writing samples, especially at the institution under study. The present study followed a mixed-methods approach (cf. Christensen et al., 2015; Richards et al., 2012), which comprised qualitative and quantitative data (Riazi, 2016; Richards et al., 2012). The data were extracted from students' written essay samples. Qualitative data was in the form of the contents of students' written essay samples. By contrast, quantitative data consisted of:

- linguistic categories, syntactic pattern density, connectives, text easability, and readability;
- sub-categories associated with these main linguistic categories; and
- the way in which these linguistic categories and their subcategories were represented in indices, frequencies, or metrics.

Ivankova and Creswell (2009, p. 136) maintain that: "…mixed methods research is a research approach … for collecting, analysing, and 'mixing' quantitative and qualitative data at some stage of the research process within a single study in order to understand a research problem more completely" (also see Christensen et al., 2015; Riazi, 2016; Richards et al., 2012).

3.2. Sampling

This study used convenience sampling to select 14 students' written essay samples. As mentioned earlier, the students were first-year students registered for the ENG1503 module in Semester 2 of 2020. All of them spoke English as a second language. All the students who participated in this study were informed through an announcement on *my*Unisa (a UNISA's legacy learning management system) that their written samples would be used for research purposes. The announcement also included informed consent forms, which students had to complete. However, before the study was conducted, an ethical clearance was granted by the UNISA's College of Human Sciences Research Ethics Committee. Its certificate number is: 2017-CHS-026. Chistensen et al. (2015) define convenience sampling as requesting people who are readily available and accessible to the researcher to participate in a study. And, Richards et al. (2012) note that convenience samples do not represent the wider population, as the participants are intentionally selected. For his part, Riazi (2016: 60) defines convenience sampling as a non-probability procedure wherein the researcher selects participants based on their availability or easy recruitment, rather than selecting them from a group of potential participants.

3.3. Data collection procedure

The researcher requested 60 previously completed assignments — 30 for each assignment (i.e., Assignment 1 and Assignment 2) — for 2020 Semester 2 from the Assignments Department of the institution under study. From these, a total of 14 Assignment 2 scripts were analysed, which comprised 14 written essay responses that had at least 500 words. Assignment 2 consisted of two topics from which students were required to choose one. The essay responses were divided into Topic 1 and Topic 2. Topic 1 was phrased as follows: Write an essay in which you argue for or against a visible presence of the police in schools as one measure of curbing the scourge of violence. Topic 2 was formulated thus: Write an essay in which you discuss three negative effects of using drugs for mood or behaviour syndromes. Seven responses were selected for each topic.

3.4. Data analysis

Fourteen students' written essay responses were analysed using the corpus analysis software tool, Coh-Metrix. These written essay responses, which were in two sets of responses as described above,

constituted the two sets of corpora for this study. As the corpora were originally in digital files (PDF files), they first had to be extracted and converted into plain texts (henceforth text files or TFs) using Microsoft Word. This was done for each of the text files in the two sets. Then, each text file was anonymised and cleaned for misspellings only. Where necessary, each text file was cleaned for non-English letters or strings. In addition, any missing full stops were added at the end of each sentence for each text file to allow the tool to identify sentence boundaries. Unnecessary gaps between words were also corrected. However, the other punctuation marks and any other grammatical errors were not changed. Thereafter, each text file was converted into Coh-Metrix-readable txt extension format using TextPad (see Azadnia et al., 2019; Khushik & Huhta, 2022; Nkhobo, 2022). After this text conversion process, all the text files were analysed in Coh-Metrix 3.0, through inputting them into this software programme. The quantitative classification and labelling of the measured Coh-Metrix linguistic categories (e.g., syntactic pattern density, connectives, text easability, and readability), together with their related sub-categories and indices (see Tables, 1, 2, 3, and 4), were automatically populated and computed for each text file. The analysed data sets were then exported to and saved in Microsoft Excel files (cf. Westerlund, 2019).

4. Findings

The findings of this paper are two-fold: findings for Topic 1 and findings for Topic 2. The discussion of the findings are also presented below.

4.1 Coh-Metrix Topic 1 findings

As mentioned above, seven students' written essay responses (in text files, herein shortened as TFs) to Topic 1 were subjected to a Coh-Metrix analysis. The analysis of the four main linguistic categories (i.e., syntactic pattern density, connectives, text easability, and readability) yielded the results, which were in the form of sub-categories and indices, as presented below.

TF1	TF20	TF31	TF42	TF79	TF91	TF95	
393.939	363.790	382.892	362.195	383.333	397.638	442.211	Noun phrase density
256.566	275.804	215.886	265.854	229.630	206.693	198.492	Verb phrase density
12.121	23.689	14.257	25.610	16.667	33.465	27.638	Adverbial phrase density
109.091	103.215	114.053	110.976	133.333	125.984	150.754	Preposition phrase density
22.222	10.152	12.220	12.195	9.259	3.937	10.050	Agentless passive voice density
18.182	8.460	6.110	8.537	14.815	13.780	5.025	Negation density
24.242	13.536	38.697	25.610	22.222	17.717	17.588	Gerund density
38.384	37.225	24.440	26.829	29.630	27.559	22.613	Infinitive density

Table 1. Syntactic pattern density

Table 1 above shows that all the text files had a high incidence of noun phrase density and verb phrase density, with TF95 and TF20 topping in each case. Adverbial phrase density incidence was low in all the text files. All the text files had a high incidence of preposition phrase density, but a lowest incidence of infinitive density, gerund density, agentless passive voice density, and negation density.

TF1	TF20	TF31	TF42	TF79	TF91	TF95	
28.283	21.997	24.440	26.829	35.185	23.622	25.126	Causal connective density
30.303	20.305	30.550	42.683	57.407	41.339	30.151	Logical connective density

8.081	13.536	12.220	17.073	22.222	11.811	5.025	Adversative and contrastive connective density
16.162	10.152	6.110	17.073	22.222	15.748	7.538	Temporal connective density
12.121	11.844	16.293	15.854	16.667	25.591	22.613	Expanded temporal connective density
44.444	40.609	85.540	62.195	55.556	41.339	55.276	Additive connective density
0	0	0	0	0	0	0	Positive connective density
0	0	0	0	0	0	0	Negative connective density

Table 2. Connectives

Table 2 illustrates that all the text files had a low and high usage of additive and logical connectives, with TF31 and TF42 having the highest usage of additive connectives respectively. Causal, adversative and contrastive, temporal, and expanded temporal connectives scored lowest in varying degrees across all the files. Positive and negative connectives had zero occurrences in all the files.

TF01	**TF20**	**TF31**	**TF42**	**TF79**	**TF91**	**TF95**	
22.960	62.550	13.790	39.740	51.600	40.130	55.960	Narrativity, percentile
58.320	1.830	68.080	66.280	46.810	46.410	4.550	Syntactic simplicity, percentile
84.130	89.25	74.220	55.960	37.830	45.220	83.890	Word concreteness, percentile
63.680	55.570	20.330	16.110	29.810	56.360	57.930	Referential cohesion, percentile
67.720	74.220	51.600	82.640	92.510	50.800	47.210	Deep cohesion, percentile

Table 3. Text Easability

As displayed above, Table 3 shows that three text files (TF20, TF79, and TF95) had a significantly high-to-moderate narrativity incidence in terms of percentiles. However, the other text files had low narrativity incidence percentiles. Concerning syntactic simplicity, again, three text files (TF01, TF31, and TF42) had a significantly high-to-moderate syntactic simplicity, while the other text files had a low syntactic simplicity usage. In relation to word concreteness, five text files displayed mostly higher percentiles compared to the other text files. Referential cohesion was mostly higher in four text files, but lower in the other related text files. Lastly, deep cohesion was higher in four text files, moderate in two text files, and low in one text file.

TF1	**TF20**	**TF31**	**TF42**	**TF79**	**TF91**	**TF95**	
51.683	42.781	38.893	65.5	47.856	63.991	46.069	Flesch Reading Ease
10.605	16.469	12.041	7.967	11.744	8.278	14.439	Flesch-Kincaid Grade level
17.705	15.058	11.963	15.672	14.472	17.010	16.742	Coh-Metrix L2 Readability

Table 4. Readability

As indicated in Table 4, the Flesch Reading Ease was high in three text files, but lower in the rest of the text files. Both the Flesch-Kincaid Grade Level and the Coh-Metrix L2 Readability were low in all the text files.

4.2 Coh-Metrix Topic 2 findings

Similarly, for Topic 2, the seven students' written essay responses (in text files, herein shortened as TFs) to Topic 2 were subjected to a Coh-Metrix analysis. The analysis of the four main linguistic categories (i.e., syntactic pattern density, connectives, text easability, and readability) yielded the results, which were in the form of sub-categories and indices, as presented below.

TF48	TF51	TF67	TF69	TF77	TF78	TF92	
339.254	381.862	364.583	379.518	391.544	393.382	350.087	Noun phrase density
227.353	212.411	208.333	244.980	215.074	215.074	261.698	Verb phrase density
17.762	28.640	19.097	28.112	11.029	11.029	39.861	Adverbial phrase density
103.020	97.852	83.333	92.369	99.265	99.265	88.388	Preposition phrase density
0	7.160	5.208	6.024	3.676	3.676	8.666	Agentless passive voice density
8.881	0	6.944	8.032	3.676	3.676	5.199	Negation density
15.986	31.026	19.097	40.161	16.544	16.544	34.662	Gerund density
26.643	16.706	22.569	16.064	7.353	7.353	24.263	Infinitive density

Table 5. Syntactic pattern density

Table 5 above demonstrates that all the text files had a high incidence of noun phrase density and verb phrase density, in which TF78 and TF92 topped in each case. The third syntactic pattern category that had a high density is the preposition phrases. However, the other remaining syntactic pattern categories had a lower density, with both the agentless passive voice density and the negation density having the lowest density. Of these two syntactic pattern categories, TF48 and TF51 had a zero usage occurrence in each case.

TF48	TF51	TF67	TF69	TF77	TF78	TF92	
33.748	35.800	48.611	40.161	40.441	40.441	43.328	Causal connective density
49.734	66.826	45.139	70.281	69.853	69.853	62.392	Logical connective density
19.538	35.800	10.417	18.072	33.088	33.088	24.263	Adversative and contrastive connective density
7.105	21.480	15.625	18.072	14.706	14.706	24.263	Temporal connective density
17.762	16.706	17.361	8.032	20.221	20.221	17.331	Expanded temporal connective density
49.734	57.279	43.403	68.273	68.015	68.015	45.061	Additive connective density
0	0	0	0	0	0	0	Positive connective density
0	0	0	0	0	0	0	Negative connective density

Table 6. Connectives

As illustrated in Table 6, most text files had a high density of logical and additive connectives, with TF69 having the highest density of logical connectives, followed by TF77 and TF78 respectively. Causal, adversative and contrastive, temporal, and expanded temporal connectives had varying degrees of lower and lowest usage density across all the files, with temporal connectives having scored the lowest density. By contrast, positive and negative connectives had zero occurrences in all the files.

TF48	TF51	TF67	TF69	TF77	TF78	TF92	
40.900	28.430	27.430	48.010	24.830	25.140	47.610	Narrativity, percentile
49.200	82.120	37.830	70.540	88.490	88.880	51.600	Syntactic simplicity, percentile
45.620	63.310	8.380	44.040	13.350	12.920	12.510	Word concreteness, percentile
72.570	13.570	44.040	22.960	40.130	40.130	27.430	Referential cohesion, percentile
78.520	97.560	97.5	99.200	97.830	97.830	99.730	Deep cohesion, percentile

Table 7. Text Easability

Table 7 above indicates that all the text files had a low narrativity. In contrast, all the text files had a higher deep cohesion rate. Five text files (TF51, TF69, TF77, TF78, and TF92) had a high usage rate of syntactic simplicity. For word concreteness and referential cohesion, only one file in each case (TF51 and TF48) had a high usage, with the other text files in each category having the low usage.

TF48	TF51	TF67	TF69	TF77	TF78	TF92	
58.622	53.188	47.846	45.350	45.478	45.892	49.700	Flesch Reading Ease
9.906	9.198	11.520	11.692	10.670	10.511	11.636	Flesch-Kincaid Grade level
17.409	11.724	14.016	13.237	14.027	14.463	12.502	Coh-Metrix L2 Readability

Table 8. Readability

As illustrated in Table 8, the Flesch Reading Ease was high in two text files, but lower in all the other text files. Both the Flesch-Kincaid Grade Level and the Coh-Metrix L2 Readability were lower in all the text files.

The aim of the current study is to investigate students' written texts through the syntactic pattern density, connectives, text easability and readability indices. In terms of the syntactic pattern density, similar usage incidence was reported in which students' written essay samples exhibited noun phrases and verb phrases in the text files for both Topics 1 and 2. In relation to connectives, various forms of usage incidence were discovered. Causal connectives had a low usage incidence in certain text files for Topics 1 and 2. Logical connectives had a high usage incidence in some text files, while it had a low usage incidence in others. In contrast, temporal and expanded temporal connectives were low and had a usage incidence in all the text files for both Topics 1 and 2. In terms of text easability, narrativity differed in all the text files in relation to their usage incidence. Similarly, word concreteness and referential cohesion had varying forms of usage incidence in all the text files for both Topics 1 and 2. The readability indices also displayed different levels of readability in all the text files with concomitant varying incidence scores.

5. Discussion

The discussion of the findings presented below addresses the research questions of the current study. In addition, it follows the key themes of which the research questions consist.

5.1. Syntactic pattern density

As shown in the findings section above, all text files for Topics 1 and 2 displayed a high incidence of noun phrase density and verb phrase density. On a broader level, syntactic density reflects syntactic complexity, which often leads to difficult text comprehension. This is so because syntactic complexity is taken as a Coh-Metric measure in which sentences are embedded and have structurally dense and syntactically vague constituents. By contrast, syntactic simplicity leads to easy text comprehension (Azadnia et al., 2019; Graesser et al., 2004; McCarthy et al., 2006; Srisunakrua & Chumworatayee, 2019). So, at the level of noun and verb phrases, Topics 1 and 2 text files displayed a syntactic complexity, a factor which often leads to the text being syntactically difficult to understand. In relation to this aspect of syntactic pattern density, the findings of the current study tend to corroborate Kim's (2020) findings that reported a prevalence of noun phrases in the discrepant-score essays.

As highlighted earlier, all text files for Topics 1 and 2 text files had a low incidence of adverbial phrase density, agentless passive voice density, negation density, gerund density, and infinitive density. For instance, Westerlund (2019) maintains that a high incidence of adverbial phrase density may indicate that a text is syntactically complex. In the current study, the findings pertaining to this feature of the

syntactic pattern show that the text files in question contained a high degree of syntactic simplicity in their use of adverbial phrases. With regard to the use of the agentless passive voice Westerlund (2019) argues that this feature mainly indicates how the reader processes a text. Concerning the text files in question, the low incidence of the agentless passive voice forms equally reflects the manner in which the writers of these texts viewed the essay topics about which they were writing. They required active agents.

5.2. Connectives

In relation to connectives, all the text files for Topic 1 displayed a low and high usage of additive and logical connectives, while most text files for Topic 2 had a high usage incidence of logical and additive connectives. Furthermore, all text files for both topics exhibited a lower incidence of adversative and contrastive, expanded temporal connectives, and temporal connectives. However, there were zero occurrences for positive and negative connectives for both sets of text files in each topic. In this regard, a study by Granados and Lorenzo (2021) reported low causal and adversative/contrastive connectives in secondary school English L2 students' written texts in the first period (28.3). But these connectives gradually increased in periods two (34.3) and three (35.6), even though there was a decrease in extended temporal connectives. The current study was a one-off study that did not involve multiple periods. Often, logical connective indices underscore a semantic linkage between sentences and paragraphs in a text. For example, low scores of logical connectives demonstrate a low textual cohesion, whereas high scores of logical connectives reflect a high textual cohesion (Westerlund, 2019).

5.3. Text easability

As mentioned earlier, for Topic 1, more text files had a low narrativity and syntactic simplicity, whereas for Topic 2, all text files had a low narrativity, and most text files had a high syntactic simplicity incidence. In this context, Dela Rosa and Genuino's (2018) study reported a high narrativity incidence. A high narrativity, which also refers to word familiarity (Mahadini et al., 2021; Westerlund, 2019), indicates that a text uses everyday language and is, thus, easy to understand. Conversely, texts with a low narrativity such as those in Topics 1 and 2 show that they are unfamiliar and may be difficult to comprehend (cf. Dela Rosa & Genuino, 2018; Kremzer, 2021). Nonetheless, since these texts were argumentative essay responses and not story-like responses, it is expected that they would employ a lot more nouns, verbs, and in certain instances, modifiers to convey their thoughts, views, and actions (see Mahadini et al., 2021).

Additionally, the syntactic simplicity findings of Topic 2 text files are consistent with Wang et al.'s (2021) findings, which revealed that essays in Clusters 1 and 2 had a higher syntactic simplicity, which meant they were easier to understand as opposed to those in Cluster 3, which were more complex and difficult to understand. On the other hand, those text files that had a lower syntactic simplicity in both topics meant that they were more complex and, thus, not easy to understand. These particular findings are in accord with Dela Rosa and Genuino's (2018) study that had similar findings.

With reference to word concreteness, more text files for Topic 1 had a high occurrence of this category as compared to those for Topic 2 in which only one text file had a high incidence of this category. For referential cohesion, some of the text files for Topic 1 had a high incidence of it, while the other text files had a lower incidence of it. Most text files for Topic 2 had a low incidence of this category. Deep cohesion was, overall, high for Topic 1 text files, and even higher for all Topic 2 text files. Word concreteness is about using concrete words as opposed to using abstract words (Dela Rosa & Genuino, 2018). In this instance, more Topic 1 text files employed more concrete words that enable the reader to make a mental picture of what is written, something that is not the case with topic 2 text files. In

Kremzer's (2021) study, referential cohesion ranged from 16.35% to 77.04%. In the present study, referential cohesion ranged from 16.11 to 63.68 for Topic 1 text files, and from 13.57 to 72.57 for Topic 2. A high referential cohesion indicates that texts employ similar words and conceptual ideas, and a high deep cohesion shows that texts use connectives effectively (Dela Rosa & Genuino, 2018).

5.4. Readability

As mentioned earlier, for Topic 1, the Flesch Reading Ease was high in three text files, but lower in the rest of the text files. Both the Flesch-Kincaid Grade Level scores and the Coh-Metrix L2 Readability scores were low in all the text files. For Topic 2, the Flesch Reading Ease was high in two text files, but lower in all the other text files. Concerning the Flesch-Kincaid Grade Level and the Coh-Metrix L2 Readability, the scores were lower in all the text files. For these three measures, the high the scores, the easier the text is to comprehend (Greaser et al., 2014). Overall, barring the three text files for Topic 1 and the two text files for Topic 2, the rest of the text files for these three measures had low scores. This means that they were difficult to understand. In Kremzer's (2021) study, the Flesch Reading Ease ranged from 36.86% to 62.65%, which meant that the texts involved were relatively difficult and relatively easy to understand and process (also see Kiselnikov et al., 2020).

6. Conclusion, limitations, and recommendations

Overall, in terms of syntactic pattern density, all text files for Topics 1 and 2 exhibited a high incidence of noun phrase density and verb phrase density. This reflected some elements of syntactic complexity or text comprehension difficulty in this aspect of syntactic pattern density. In certain instances, a high syntactic density such as this demonstrates syntactic vagueness. By contrast, all text files for Topics 1 and 2 text files had a low incidence of adverbial phrase density, agentless passive voice density, negation density, gerund density, and infinitive density. All of this evinced a high level of syntactic simplicity for these subcategories of syntactic pattern. These two contrasting results of the syntactic pattern, the latter being one of the main linguistic categories that Coh-Metrix focuses on, indicate how Coh-Metrix differentially interprets these two features of students' written essay texts.

In respect of connectives, Topic 1 text files yielded mixed results, a low and high usage of additive and logical connectives as compared to Topic 2 text files, which had a high usage of these two types of connectives. At the same time, both sets of text files manifested a lower usage incidence of adversative and contrastive, expanded temporal connectives, and temporal connectives. These two sets of results demonstrate how students utilised connectives contrastingly in terms of additive and logical connectives, given the varying usage rates detected in this instance. They also indicate how students employed few adversative and contrastive, and expanded temporal connectives in both sets of text files. A high usage of connectives in a text reflects a high degree of a logical connection of sentences and ideas, while a low usage of connectives signals a low level of a logical connection.

Concerning text easability, most of the text files for Topic 1 and all text files for Topic 2 had a low narrativity incidence. This demonstrates that, overall, text files for these two topics contained unfamiliar words and, as such, they were difficult to process and comprehend. However, it is worth pointing out that all these text files were argumentative and not simply narrative in terms of their genres. Another noteworthy point is that all Topic 2 text files exhibited a high syntactic simplicity, a factor that emphasises their high text comprehension in this instance. For word concreteness, the two sets of text files, again, displayed contrasting results, with Topic 1 text files having a high incidence of this feature as compared to Topic 2 text files. This underscores the manner in which the first set of text files concretely presented their ideas. Similarly, the first set of text files had a higher usage of deep cohesion, which is an indicator for textual coherence, than the second set.

With regard to readability, the scores for the Flesch-Kincaid Grade Level scores and the Coh-Metrix L2 Readability were low in all Topic 1 and Topic 2 text files. Since this measure functions in an inverse way, this demonstrates the text difficulty of these two sets of files in relation to their readability index.

One of the limitations of the current study are the fewer text files it employed. The other limitation is that the study did not employ many different types of data sets, or different sets of text files. On this basis, it is recommended that future studies employ many text files, and focus on different sets of student written corpora. Notwithstanding these limitations, overall, the current study contributes to the current dearth of research that employs Coh-Metrix to analyse student essay writing samples in the South African higher education sector. It is also intended to fill the existing research gap in this ODeL arena in South Africa. Most importantly, the study contributes a South Africa perspective to the existing global research on the use of corpus analysis software applications to investigate higher education student essay writing samples.

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L1 and L2 vocabulary acquisition in Greek primary schools

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Research emphasises that vocabulary development is essential for the successful acquisition of a language (e.g. Biemiller, 2003; Alexiou et al, 2019). The volume of words learners are familiar with is thought to be a key influence on how well the lexicon functions in all linguistic domains (Webb & Nation, 2017). It is argued, too, that a speaker's L1 vocabulary may influence success in educational attainment as in the learning of an L2. This paper examines the L1 and L2 vocabulary knowledge of learners in Greek primary schools. The subjects were 411 Greek primary school students, ranging from the first to the sixth grade of primary school. Their vocabulary was assessed using two vocabulary measuring tools: Meara & Milton's X-Lex (2003) and Alexiou's Pic-lex (2019) for receptive vocabulary knowledge. Results suggest Greek L1 learners grow a lexicon of a size and at a rate consistent with learners of L1 English and Arabic. There is surprisingly little variation between learners of the same age. These learners grow English L2 vocabulary at an impressively fast rate and, by international comparisons, achieve high levels of communicability by the end of primary education. Again, there is surprisingly little variation. Comparing, L1 and L2 knowledge and progress, it is not clear that L1 vocabulary knowledge can or does influence the learning of the L2.

Key words: vocabulary, L2 vocabulary, receptive, assessment, young learners, word-gap

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1. Background

Every native speaker of Greek will need to complete the huge task of learning Greek vocabulary. And yet we know very little about the growth of the lexicon in Greek. How many words are learned? How many words are needed to become fluent and like other speakers? How quickly are these words learned? Is progress in learning regular or episodic? However, understanding the lexicon in young learners is important since it is thought to associate, maybe even underpin, educational success and attainment. There is an idea – the word gap hypothesis – that in North American English there are substantial and systematic differences in vocabulary development that drive the lack of educational attainment in some groups, and consequently, social exclusion and even crime (Hart & Risley, 1995).

L1 Greek vocabulary size and quality may drive, therefore, the progress of subjects in the Greek curriculum such as L2 learning of EFL. We know rather more of EFL learning than we do of the learning of L1 Greek. We know there is variation in L2 learning (Milton, 2011). However, because we know

nothing about the growth of the L1 in Greek, we have no idea if this can influence the learning of L2 English in Greece.

The purpose of this paper, therefore, is to report estimates of Greek L1 and English L2 vocabulary size among primary age learners, and to consider whether there is any basis for thinking that the word gap phenomenon might exist in Greece.

1.1. L1 learning

A lexicon of an appropriate size and quality is essential for language. It is important in itself, of course, but Webb and Nation (2017), suggest that acquiring lexical knowledge—defined as the variety of words we know and how well we know them—lays the groundwork for mastering other linguistic concepts. Numerous studies have shown that early vocabulary development impacts positively on later reading achievement, and is linked with future academic success (Sénéchal et al, 2006; Biemiller & Slonim, 2001; Milton & Treffers-Daller, 2013).

Characterising vocabulary knowledge in terms of numbers of words is a challenge in very young learners. Their cognitive development is still immature, thus the educational and psychological strategies used in communicating and assessing language, must be completely different from those used with older students (Prosic-Santovac, 2017). Taking into account their individual differences is crucial, namely both their cognitive and the affective elements of their disposition (Mattheoudakis & Alexiou, 2009). Young children's attention spans are incredibly short. Because of this, they get tired or bored very easily and may act out, particularly if a task seems pointless, difficult, or does not immediately pique their interest (Pinter, 2011; Alexiou, 2015; Alexiou et al, 2019). A methodology for assessing vocabulary size in such learners has yet to be developed. Despite this, it is thought young learners can acquire words and language with great facility. According to recent research, young learners can pick up new words with only one encounter (Tiefenthal, 2008 cited in Alexiou et al, 2019) and exposure to real language can result in incidental vocabulary learning (Alexiou & Yfouli, 2019).

Learners of this age present issues which challenge assessment in other ways, such as trying to assess vocabulary knowledge in terms of single words assessed by sampling a spread of words across the frequency bands. Particular classes of words, nouns that are concrete and simple to portray and translate are frequently taught to very young learners and may lay the foundation of the very early lexicon (Kersten, 2015). However, as Jóhannsdóttir's (2022) study shows, pre-school learners in Iceland can pick up a surprisingly large volume of highly frequent and structural vocabulary, perhaps about half of the most frequent 1200 words in English, from purely informal use of video games and from watching TV programs such as Peppa Pig. Additionally, most experts agree that young learners store language in lexical chunks or fixed phrases (Lewis, 2002; Muñoz, 2007). Even before children reach the final phases of cognitive development, this so-called prefabricated language is frequently used in early language learning in both their first and their second language (Wray, 2002). Songs, rhymes, classroom discourse, and caregivers' speech are all instances of the formulaic language that such learners encounter on a daily basis (Cameron, 2001; Bannard & Lieven, 2009).

As a result, the early language generated by very young children includes a range of fixed expressions (Wray, 2002), which helps them sound natural and become more fluent (Kersten, 2015; Milton & Alexiou, 2012). Nevertheless, some youngsters use formulaic language sparingly, whilst other children frequently use formulae in their speech. It seems that the child's concept of the purpose of language, can play a vital role in shaping the strategy that is taken to learning (Wray, 2002). While referential language is typically split down into individual words, expressive language tends to be stored as a whole. The key to successful language learning seems to be the combination of set sentences and single lexical elements (Kersten, 2015).

Perhaps it is not surprising, then, if much of what we know about the development of vocabulary knowledge is deduced from studies of adult learners with well-formed lexicons. Goulden et al (1990) estimate that adult educated speakers of English know approximately 17,200 words. From this Schmitt and McCarthy (1997) estimate that children acquire 1000 words annually. This number is, broadly, supported by other studies. Biemiller and Boote (2006), for example, suggest that children typically have learned the meanings of 6,000 root words by the end of second grade – aged 7 or 8 therefore. They report a wide range of scores, however. Children from families in higher socio-economic backgrounds knew 8000 root words, whereas those in the lower groups knew only 4,000. Other studies have yielded slightly lower figures, while other more recent studies employing frequency-based testing using the lemma as the measurement unit have found that children's lexical growth occurs at a rate of roughly 600 words per year (e.g., Biemiller & Slonim, 2001; Coxhead et al, 2015; Milton & AlSager, 2017). If young native speakers are picking up vocabulary at a pace of around two words per day, or 600 words per year, it becomes theoretically conceivable to catch up on any gaps in some learners' knowledge through explicit teaching and the differences in groups of different socio-economic status observed in Biemiller and Slonim's (2001) study appear, from their own data, to have largely disappeared after several years of formal education.

There are some well-constructed estimates of the L1 vocabulary sizes of learners across the primary age range, at least in English and these are summarised in Table 1. The Milton and Alsager (2017) estimate is drawn from a test of the most frequent 10,000 words in English and there will likely be some under-estimation particularly where ceiling effects come into play among the highest scores. The Biemiller and Slonim estimate comes from a test based on a school textbook corpus and the ceiling for this test is unknown. Nonetheless, these estimates appear to confirm the idea that L1 learners will probably add about 2 new words a day to their lexicon throughout primary level education.

Year	Age	Milton & AlSager (2017)	Beimiller & Slonim (2001)
3	7-8	5071	5301
4	8-9	5800	5759
5	9-10	6828	6699
6	10-11	7318	7784

Table 1: Measurements of vocabulary size in primary age children

The development of the L1 lexicon in Greek appears to be unknown and, to our knowledge, there are no studies of the growth of Greek L1 vocabulary size at primary school age or younger in the literature.

1.2. L2 vocabulary learning

While L1 learners acquire their vocabularies from naturalistic exposure, L2 learners are typically characterised by formal learning of the subject in a classroom setting. Progress will vary according to the quantity and the quality of teaching, therefore. Nonetheless, some guiding principles have emerged about the nature of L2 learning. According to Milton and Meara (1998) and Laufer (2010), students typically learn between two and five new words following an hour of classroom exposure to English as a foreign language. The rate of vocabulary uptake in class can be used as a gauge of the effectiveness of classroom teaching as in Milton (2011). The relationship between vocabulary size and proficiency also allows progress, and learning targets to be convincingly established. This is demonstrated in Table 2 where vocabulary size is linked to the levels on the CEFR and to formal exams. As Table 2 demonstrates, students will likely require at least 1500 lemmatised words in English to advance from the CEFR A1 to A2 level and perhaps 1500 additional words to attain the B1 level (Milton, 2009). A vocabulary size in the high thousands, certainly over 5000 words, is required for anything like fluency in a European foreign language.

Vocab size (max 10,000)	Vocab size (max 5,000)	Cambridge	TOEFL	IELTS	CEFR level
9000			630	8	
8000/9000	4500 - 5000	CPE	620	7	C2
7000/8000	3750 - 4500	CAE	600	6.5	C1
6000/7000			550	6	
5500/6000			500	5.5	
4500/5500	3250 - 3750	FCE	450	5	B2
About 4000	2500 - 3250	PET	350-400	4.5	B1
About 3500	1500 - 2500	KET	300	4	A2

Table 2. Summarized from Milton and Hopwood (2022, p. 64-5)

While Table 1 has demonstrated that acquiring 5000 words is normal in native speakers at a young age, Alexiou and Konstantakis (2009) recognise that this is considered very challenging for non-native speakers taking English language classes at private language schools. While learners may learn 600 to 1000 lexical items every year in their L1, Nation (1990) estimates that these same learners will likely pick up between only 1000 to 2000 word families in their L2 during their five years of exposure to formal language teaching. As Konstantakis and Alexiou point out, however, individual outcomes may differ (2012), and there will be variation according to the circumstances of learning. The rate of L2 learning Nation (2001) observes would be considered ambitious in many L2 learning environments.

While Vassiliu (2001) can report that his L2 English language learners could master 500 of the 5000 most frequent words, annually over the course of teaching to the FCE exam, perhaps 5-7 words per classroom hour, Milton and Meara (1998) in a review of rates of vocabulary uptake suggest that this is exceptional. Nonetheless, the idea that learning hundreds of words in the L2 persists. For example, according to Cameron, 500 words a year would be the ideal and most useful number of words (2001). For L2 learning to be this successful, certain conditions of vocabulary presentation are essential. As Scholfield (1991) points out, with volumes of learning this large, the learning load must be spread out, relatively evenly and in manageable amounts, across the time available for learning. Failure to do this can inhibit learning or impose near impossible demands on the learner.

Detailed studies of L2 vocabulary acquisition in Greek primary schools are lacking, however, there is some evidence (Rodousaki & Alexiou, 2021) that these young learners make good and regular progress towards the higher level vocabulary goals provided in Table 2, and compare well with other young learners internationally. Further studies are needed both to confirm these conclusions and help us understand the learning process at this young age, and to provide normative data so that standards over time can be monitored.

1.3. Links between L1 and L2 vocabularies and the word gap

Young learners at primary age in Greece are not only learning vocabulary for their foreign language, they are simultaneously growing their first language lexicon, too. The size of a learner's L1 lexicon is thought to impact on the speed of acquisition, and ultimate size, of the developing L2 lexicon (Masrai & Milton, 2015). As noted from the research of Biemiller and Slonim (2001) there is an idea that L1 lexicons can vary considerably in young learners and that this is linked to subsequent educational success. An understanding of L1 vocabulary development is important, therefore.

While studies of L1 vocabulary acquisition report comparatively large-scale and regular learning as a generality, there is a theory that there is a shortage of explicit, rich, purposeful vocabulary education in primary grade curricula or educational settings, and in the general language backgrounds of some

learners in particular. Hart and Risley use the term Word Gap to refer to this phenomenon (1995). Over the years some learners, then, will miss opportunities to be exposed to and develop their vocabulary sufficiently well to take best advantage of the educational system, and this is likely to start from the very earliest stages of learning. Additionally, it is reported that the word gap is widening as seen by the majority of instructors' testimonials, affecting not only the learner's academic performance, but also having unpredictable repercussions in various other aspects of life (Oxford University Press, 2018; Alexiou & Milton, 2020). An outcome of this idea, as noted by Graves (2006), is numerous initiatives to help lexically impoverished children increase their vocabulary knowledge, (see Whitehurst et al, 1988; Beck & McKeown, 2001; Biemiller, 2003; Juel & Deffes, 2004). The word gap theory then is widely and uncritically accepted as fact and used as the basis for educational practice.

The word gap theory has to be taken seriously, then, because it is so widely accepted and used, however, there are many problems associated with it which should undermine its credibility. It is widely criticised and condemned (for example, Dudley-Marling & Lucas, 2009); Michaels, 2013; Nation, no date). Nation's criticism is particularly damning since it points to serious deficiencies in Hart and Risley's (1995) testing method which does not test vocabulary size at all. The conclusions they draw about differences in vocabulary size are meaningless, therefore. Wilson et al (2016) point to the absence of a working model of a developing lexicon in Hart and Risley (1995). Wilson et al's (2016) research shows that the lexicons of educational high achievers are very similar in size to those of educational low achievers and both, on average, are of a size that should make high education performance possible. Wilson et al's (2016) evidence indicates, too, that there is no reason for thinking that vocabulary sizes of English speakers are declining over time. A speaker's lexicon will continue to grow with age, not least as neologisms are added. The fact that young people will tend on average to have smaller measured vocabularies than older people is not an indication of a decline in vocabulary size. Rather, these systematic differences in the vocabulary size are an artifact of the way lexicons develop with age.

It is hard to find convincing empirical evidence that supports the idea of the word gap and there is no accepted model of how a vocabulary should develop in native speakers. It should not be a surprise, therefore, that in intervention studies little, if any, justification is provided regarding the selection of words, nor the number of lexical items included. There is little or nothing to indicate the degree of success resulting from intervention programs. There are no longitudinal studies that can demonstrate a decline in vocabulary size over time or the benefits of intervention. The idea that vocabulary-rich input plays a decisive role in fostering language and academic development in very young students, appears to be an article of faith rather than the product of well-directed research. There is clearly a need for well-constructed data collection to establish vocabulary sizes in school learners and whether this might inter-relate with academic learning, as in the acquisition of a foreign language in school. There are no studies of the word gap in the Greek language context so, as a result, it is essential to measure vocabulary size routinely in both monolingual and multilingual contexts since it can help us develop a much-needed model of vocabulary acquisition in young children.

2. The Study

2.1. Aims and Objectives

The development of L1 vocabulary size and the word gap phenomenon have not been examined in Greece yet. There are no studies that can suggest how an L1 Greek lexicon develops in terms of size in childhood. This study aims to examine this vocabulary question in the context of Greek mainstream primary schools in Rhodes, Greece. The broad intention, then, is to establish figures for L1 vocabulary size. There are few studies which establish norms for lexical development in the context of L2 English

learning in schools, nor how this learning might inter-relate with the size of the L1 lexicon. A further broad intention of this study, then, is to establish vocabulary size figures for learners of EFL in primary schools. Armed with some good data in these two areas, it becomes possible to consider whether the two sets of figures might be related. If there is any basis at all to the word gap idea then a relationship between vocabulary size and educational attainment will be clearly visible.

The specific objectives in this paper are:
1. To test the Greek vocabulary sizes of learners in primary school and compare these scores with established data from other studies of L1 vocabulary size at this age
2. To test the EFL vocabulary sizes of learners in primary school and compare these scores with other studies of L2 vocabulary learning, and against the goals of learning in primary level EFL
3. To compare the learners' L1 and L2 scores to investigate whether the two correlate as might be anticipated by the word gap hypothesis

2.2. Methodology

2.2.1. Participants

Four hundred and eleven Greek primary school students (1st - 6th grade) took part in the study. The children had English instruction (45-minute EFL lessons) as a part of their school's syllabus twice a week for the first, second and third grades and three times a week for the fourth, fifth and sixth grades. These schools have not been selected because they are particularly good or bad, or because they draw learners from a particular socio-economic status. Rather, it is thought, they are a cross-section of schools and participants that might fairly represent the primary sector in Greece as a whole.

2.2.2. The tests

Two vocabulary measurement tools were utilized. Meara and Milton's X-Lex (2003) and Alexiou's Pic-lex (2019) (see the Appendix) were administered to measure the young learners' receptive vocabulary knowledge. X-Lex, (Meara & Milton, 2003) is a test of passive word recognition which measures the knowledge of the 5,000 most frequent lexical items while its raw scores produce an estimate of receptive vocabulary size within the most frequent 5, 1000 word frequency bands. It is considered to produce valid and reliable estimates of vocabulary size (Milton, 2006). The Greek version of the test was produced by Milton and Alexiou (2008). Pic-lex (Alexiou, 2019) is intended for very young learners, assessing the testee's receptive vocabulary size. It is based on picture and audio cues, it contains only nouns and comprises a principled selection of the 5000 most frequent words. The main difference from X-Lex is that is delivered aurally through the use of tablets or computers in the form of a game, since tests that resemble games on the surface are preferable for young learners (Alexiou & Milton, 2020). Both tests can be tied back to CEFR levels for comparable estimates. Both tests were administered in English and Greek.

2.2.3. Procedure

The assessment took place during the school year of 2020-2021, once at the beginning of the teaching year (September-October) and the same procedure was repeated in the end towards the end of the same school year (May-June) to measure the young learners' lexical progress.

3. Results

3.1. The Greek vocabulary sizes of learners in primary school

The passive receptive vocabulary sizes of learners, out of the most frequent 5000 words and as measured by X-Lex, a test of recognition of the written form of words, is shown in Table 3.

Year	Age	X-Lex Gr September	SD	X-Lex Gr June	SD
1	6-7	671.42	293.22	850.00	289.80
2	7-8	1298.27	325.86	1506.89	326.02
3	8-9	2110.34	337.65	2389.65	339.08
4	9-10	2906.06	277.28	3233.33	270.80
5	10-11	3633.33	326.48	3983.33	326.48
6	11-12	3913.11	438.45	4279.50	426.74

Table 3. Vocabulary sizes measured by X-Lex

The vocabulary sizes of learners, out of 5000 and as measured by Pic-lex are summarized in Table 4.

Year	Age	Pic-lex Gr September	SD	Pic-lex Gr June	SD
1	6-7	2505.71	447.98	2685.00	449.90
2	7-8	3144.82	331.49	3294.82	331.49
3	8-9	3940.51	253.65	4111.20	252.71
4	9-10	4196.21	226.90	4376.51	230.92
5	10-11	4365.21	212.01	4515.21	212.01
6	11-12	4735.24	206.62	4837.70	203.03

Table 4. Vocabulary sizes measured by Pic-lex

3.2. The EFL vocabulary sizes of learners in primary school

The learners in this study take English as foreign language in primary school and the growth of vocabulary sizes, year on year, out of 5000 and measured by X-Lex, are summarised in Table 5.

Year	Age	X-Lex Eng September	SD	X-Lex Eng June	SD
1	6-7	333.571	92.36	559.28	120.17
2	7-8	1072.98	224.10	1338.50	227.56
3	8-9	2090.51	206.35	2295.69	234.57
4	9-10	2618.93	350.02	2822.72	368.90
5	10-11	2863.76	395.73	3113.76	395.73
6	11-12	3167.21	576.11	3447.54	579.11

Table 5. EFL vocabulary sizes measured by X-Lex

The EFL vocabulary sizes of learners, out of 5000 and as measured by Pic-lex are summarized in Table 6.

Year	Age	Pic-lex Eng September	SD	Pic-lex Eng June	SD
1	6-7	1827.14	108.24	1927.14	108.24
2	7-8	2158.62	185.86	2308.62	185.86
3	8-9	3282.75	254.18	3432.75	254.18
4	9-10	3659.09	251.90	4059.09	251.90

5	10-11	3787.68	250.64	4087.68	250.64
6	11-12	4084.42	352.31	4334.42	352.31

Table 6. EFL vocabulary sizes measured by Pic-lex

4. Discussion and Interpretation

4.1. The Greek vocabulary sizes of learners in primary school

There are currently no models of the L1 lexicon in Greek, and which provide estimates of vocabulary development in terms of size. If, as the word gap hypothesis asserts, education failure can be attributed to deficiencies in vocabulary knowledge and size, then having normative figures for the size of the lexicon is essential. Only with this information can the nature and scale of departure from these norms, and deficiencies if they exist, be demonstrated and quantified. This study provides some of this normative data with estimates of vocabulary size among learners aged from 6 to 12.

The Pic-lex results in Table 4 suggest learners enter the school system with about 2500 words in Greek as measured by this test. Table 2 suggests a global vocabulary size that is, probably, larger than this, with knowledge in the less frequent bands not tested in Pic-lex, perhaps 3000 words or more. Not every aspect of word knowledge will be gained at the earliest stages of learning, of course. Learners at age 6 are likely to have mostly an aural form of a word in the lexicon and the written form is added later. Learners will likely recognise these words in some idiomatic structures but are likely to know neither a wide range of collocations nor the subtleties of word use, connotation and association. Nonetheless, these words are in the lexicon in some meaningful sense.

Both the longitudinal measures (September to June) and the cross-sectional measures (grades 1 to 6) of size indicate that the lexicon grows over the 6 years of primary education. By the age of 12, the learners in this study score close to the maximum on this test. About 4800 of the most frequent 5000 words are recognised by the end of grade 6. Table 2 suggests this might mean an overall vocabulary size of 8000 or 9000 words. A lexicon of this size means that speakers will probably have sufficient words for good comprehension of almost any text, provided it is not overloaded with technical or specialist vocabulary (Nation 2006; Laufer & Ravenhorst-Kalovski, 2010). The regularity of vocabulary acquisition in Greek, as measured by Pic-lex, is illustrated in the chart in Figure 7. The difference between scores at each grade level is statistically significant. An ANOVA using the sequence of September measurements produces the result F=542.83, Sig .000.

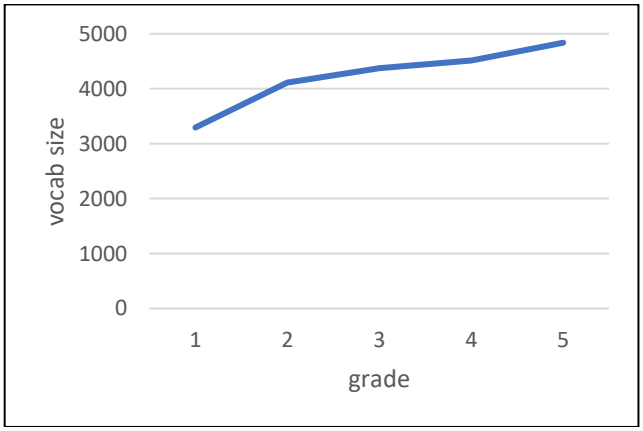

Figure 7: Vocabulary acquisition in Greek measured by Pic-lex.

These estimates fit well with other reported studies of the rate of L1 vocabulary acquisition and reported at the outset of this paper (e.g., Biemiller & Slonim, 2001; Coxhead et al, 2015; Milton & AlSager, 2017). These figures support the idea that learners may acquire about 600 new words annually in childhood and, maybe, sometimes achieve a rate of acquisition approaching the 1000 new words suggested by Schmitt and McCarthy (1997). The subjects in this study, therefore, learn words at a rate of about two or three new words a day. The figures in Table 4 suggest that the rate of acquisition may diminish with time. Milton and Treffers-Daller (2013) suggest that this decline is a feature of the acquisition of the English lexicon, however, in this study it must be kept in mind also that this diminution is a product of a ceiling effect where only the most frequent 5000 words are tested and, by the end of the testing period, the average learner clearly knew almost all of these words. Studies of the rate of acquisition are almost all drawn from learners of English as an L1 although there is also a study of Arabic (Masrai & Milton, 2017) which produces similar rates of acquisition up to adolescence. It can be speculated that where rates of acquisition in a third L1, Greek in this study, produces the same figures, that this figure of 2 to 3 words per day for L1 acquisition in childhood is something like a linguistic universal. The cognitive load of forming a new concept and attaching a word form to it is sufficiently great than faster acquisition is, maybe, impossible.

The scores from the X-Lex test display a broadly similar pattern; small at the outset with regular growth thereafter. The X-Lex scores are smaller and this is to be expected especially at the lower age range of learners in this study. While Pic-lex is a test of the aural knowledge of words, X-Lex tests the recognition of the written form, and learners aged 6 are at the beginning of the process of learning to read and write. Even at this early stage of the learning process, however, the subjects appear to know 600 or 700 words by recognition in writing. By the end of grade 6, and at age about 12, this knowledge has increased dramatically and, on average, about 4200 words are known. The regularity of vocabulary acquisition in Greek, as measured by X-Lex, is illustrated in the chart in Figure 8. The difference between scores at each grade level is statistically significant. An ANOVA using the sequence of September measurements produces the result F=1035.846, Sig .000.

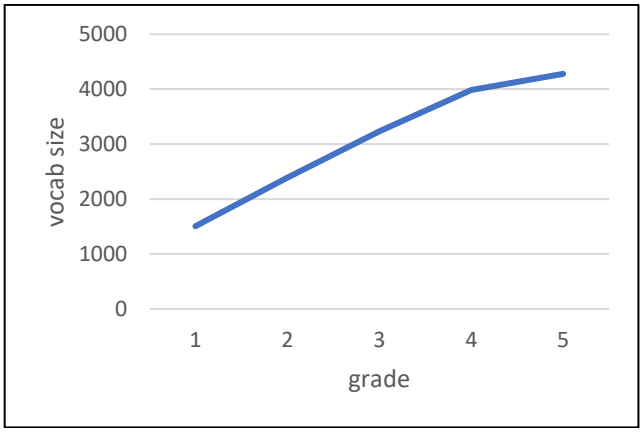

Figure 8: Vocabulary acquisition in Greek measured by X-Lex.

Table 2 shows that learners may know about 8000 words overall, in this form. As Milton et al (2010) demonstrate, the aural and the orthographic sides of the lexicon need not map onto each other perfectly. However, the X-Lex test, which has a check for guesswork and over-estimation, is likely to produce smaller scores overall that a test, like Pic-lex, which has no such check. The X-Lex scores, for the older subjects in the study appear highly comparable to the estimated knowledge produced by Pic-lex. It is probably possible to conclude that subjects will recognize words equally well in both written and aural form.

The discussion of the progress of mean scores can disguise the variation that generally occurs in this kind of data. Some learners will score higher than the mean and others lower than the mean. Where, as in this study, mean scores for each age or grade are compared, it becomes easy to believe that every subject in one grade scores higher than every subject in a lower grade. Generally, this is not the case, of course, and there is a lot of overlap. The standard deviation scores presented in Tables 3 and 4 show that there is some variation. However, a particular feature of the vocabulary scores for Greek as an L1 is how small these standard deviations are, and how tightly the scores at each grade cluster around the mean. The subjects in this study appear to progress as a cohort. The Coxhead et al (2015) study report a closer correlation of chronological age than to grade level, however, this is with older learners and the subjects in this study are learning, and being tested on, their knowledge of words in written form at the same time as they are learning to become literate in Greek through teaching in school. This may explain the tight clustering and close link between vocabulary size and grade level.

These results, then, provide some standard figures, some normalized scores, for first language lexical acquisition where none exist for Greek. They provide a good basis for investigating whether variation, and how much variation, might produce differences in academic performance.

4.2. Comparison of scores with established data from other studies of L1 vocabulary size at this age

This paper has produced scores for vocabulary size in Greek as a first language among primary age learners between 6 and 12. This section addresses the question whether the scale of learning described here fits in any way with the kind of learning described in other studies and in other languages. Table 9 summarises the scores contained in this study with scores from Biemiller and Slonim (2001) and from AlSager and Milton (2017) which present a range of scores across similar primary ages. In Table 9 the numbers for this study are presented as whole numbers for easier comparison with the other studies. Figures from this study are taken from the Pic-lex September data which matches best the oral presentation of words and testing method of the other studies. The AlSager and Milton (2017) study presents scores from a test of the most frequent 10,000 words in English. The Biemiller and Slonim (2001) study is based on words taken from a corpus of school teaching material but which seems likely have a similar ceiling. Table 9, therefore, presents 10,000 word equivalent scores based on the data which is used in compiling Table 1 in this paper.

Year	age	This study (5000 max)	This study (10,000 equivalent)	Milton and AlSager (2017)	B & S (2001)
1	5-6	2505	<4000		
2	7-8	3144	4000	5,071	5,301
3	8-9	3940	7000-8000	5,800	5,759
4	9-10	4196	7000-8000	6,828	6,699
5	10-11	4365	7000-8000	7,318	7,784
6	11-12	4735	8000-9000		

Table 9: Comparison of L1 vocabulary sizes

The outcome suggests that vocabulary sizes look very comparable especially at the older end of the age range tested. This fits with the equivalent rates of word uptake noted earlier in this paper. Greek learners, it seems, are very like L1 learners of other European languages in terms of the sizes of lexicon they develop and the speed with which they acquire it.

4.3. The EFL vocabulary sizes of learners in primary school

It might be thought that learners of a foreign language will start school with no foreign language knowledge, however, the scores obtained in this study suggest this is not the case. The results indicate that learners may start Grade 1 in the Greek educational system recognising about 1800 English words by sound and about 300 English words in written form. This conclusion probably fits well with Jóhannsdóttir's (2022) study which found Icelandic children began school with substantial EFL vocabulary, possibly over 1000 words in all, and before any formal classes in the subject began. In the absence of formal instruction, it is worth asking where this vocabulary comes from and, like Jóhannsdóttir, we conclude that it comes from the TV shows like Peppa Pig and the computer games that pre-school learners watch and play at home. There is ample evidence of vocabulary uptake from these sources in very young children (e.g., Alexiou & Kokla, 2018; Alexiou & Yfouli, 2019). Uptake of vocabulary on the scale reported here is impressive.

Once in school, the learning of EFL vocabulary continues to be impressive. About 3000 EFL words are added in 6 years of school as measured by X-Lex, the test of written word form, and about 2500 words are added in aural form as measured by Pic-lex. The final size estimates, especially on Pic-lex, may be subject to some ceiling effects and had a test with a greater range of vocabulary frequencies been used, it might have revealed even larger lexical gains. This suggests that something like 400 or 500 new EFL words a year are added, on average, to the learners' EFL lexicons in the primary stages of school. We know that learners have received approximately 400 classroom hours of instruction and this suggests an uptake rate which is very rapid. 7 or 8 words per hour are learned in written form and 6 or 7 words per hour of words in aural form.

The subjects on this study finished primary education knowing, on average about 3500 words in written form and 4300 in aural form. The relationship between vocabulary size on X-Lex and CEFR level among fully literate learners is now established (e.g., Alexiou & Milton, 2009; Milton, 2010; Milton & Hopwood 2022), and vocabulary knowledge of this order suggests the grade 6 cohort are at B2 level and most could pass a B2 level exam such as Cambridge FCE. The aural scores are higher than this, and may reflect an even higher level of communicative proficiency, perhaps C1, however, the relationship between Pic-lex scores and CEFR level is not yet well researched.

4.4. Comparison of scores with other studies of L2 vocabulary learning, and against the goals of learning in primary level EFL

The goal of EFL learning in primary school in Greece is that learners should attain knowledge and skills at the B1 level of the CEFR (Alexiou & Mattheoudakis, 2013). The results of this study suggest, then, that teaching and learning are truly impressive and that the attainment of learners is considerably beyond the target set for them. The average student in this study appears to be at B2 and maybe even C1 level. It must be kept in mind that the schools and subjects have not been specially selected in this study and are thought to be representative of the primary system generally in Greece.

This kind of progress in the learning of a foreign language compares very favourably with learning in other countries. Milton and Meara (1998) in a review of rates of vocabulary uptake reflect that about 4 words per classroom hour is good and the rates of uptake in this study far exceed this figure. They match those reported in Vassiliu's (2001) study, also of Greek learners of EFL, where learning at a rate of 5 to 7 words per classroom hour was recorded. Total attainment also appears excellent and in excess of other reported studies. For example, AlShaikhi and Milton (2017) report learners attain about 2000 word lexicons in EFL at age 15 and about 3000 words on completion of education at age 18 in Saudi Arabia. Learners in Turkey are reported to have learned about 2000 EFL words by aged 12 (Kavanoz & Varol, 2019). Learners in Spain may learn about half this, 1000 words, at this age (Alonso & Garcia, 2013). Learners of French as a foreign language in UK are reported to have learned only 500 to 800 words on average by the age of 16 (Milton, 2006; David, 2008).

Exceptionally rapid learning of vocabulary, and therefore very rapid overall progress to proficiency, requires some explanation and Milton (2011) provides this explanation by contrasting the good learning environment in Vassiliu's (2001) study with the poor environment which obtains for the learners in the Milton (2006) and David (2008) studies. The environment in Vassiliu's (2001) study is characterized by a number of positive features. There is good classroom teaching, of course, based on an effective curriculum which includes a very wide range of topics. This curriculum includes good vocabulary loading, which are included in a good textbook which sequences and presents this material appropriately for the learners. These textbooks typically include high quality and appropriate extension material in the form of work books, websites, games and tests. Both learners and their parents are very positive about learning EFL so, generally, there is high motivation. Parents routinely support this learning with additional classes in private schools and this is crucial to understanding how progress can be so rapid. In effect, the extension material and private classes extend learning beyond the classroom by hundreds of hours.

Milton (2011) contrasts Vassiliu's good learning environment with the poor learning environment which surrounds language learning in British schools. The learning of French in UK is given fewer classroom hours. The curriculum is heavily structural and focusses on only a small range of topics and a small vocabulary, leaning heavily to only the most frequent words. The textbooks, which have received much criticism, are considered poor and demotivating. Whole years can pass with very little new vocabulary provided for the learners to use. The range of classroom extension materials, and opportunity for their use, is far less than in Vassiliu's study. Neither learners nor their parents value foreign language learning as they do in Greece. There is no tradition, and much less systematic opportunity, for adding to school language learning with private classes. Learning will often be restricted to the, already limited, hours provided in the classroom. No wonder, then, that these learners make far slower progress, with far lower attainment, that their counterparts learning EFL in Greece.

As with the L1 Greek data, there is surprisingly little individual variation in the scores of the subjects at each grade level for L2 English vocabulary size, and this produces small figures for standard deviation. Particularly at the earliest stages of learning, the knowledge and progress of subject is quite surprisingly uniform.

4.5. Comparison of L1 and L2 scores to investigate whether they correlate as might be anticipated by the Word Gap hypothesis

If there is any substance to the word gap hypothesis, then it would be expected that a consistent relationship between L1 vocabulary size and attainment in an academic subject like learning an L2 would exist. Table 10 shows the correlations between L1 and L2 vocabulary size divided by grade level, so differences in age and exposure are controlled.

	Correlations	**sig**
Grade 1	0.429**	0,000
Grade 2	0.053	0,625
Grade 3	0.090	0,504
Grade 4	0.243*	0,049
Grade 5	0.427**	0,000
Grade 6	0.511**	0,000

Table 10: Correlations between L1 and L2 vocabulary size divided by grade level

It is not clear this consistent relationship exists. It might just be possible to argue that while there is no apparent relationship for two of the first 3 years, the correlation may be getting stronger with time. This might be consistent with the idea that a large vocabulary on entry to the school system enables a learner to make faster progress and learn even more words, and so progress faster than those who enter with smaller lexicons. However, while there is no obvious correlation at grades 2 and 3, there is a moderate, and statistically significant, correlation at grade 1. We are inclined to discount this idea, at least from this data. There is no obvious suggestion here that lexicon in Greek L1 is small or is getting smaller. It is not apparent that a portion of the population has some kind of deficiency in vocabulary that should worry educationalists. The scores of all subjects are very consistent at each grade level and they suggest that all subjects are on track to grow a large lexicon of a size that should cope with the demands of the education system.

Wilson et al (2017) point to the way all learners, unless there is some catastrophic brain injury or other problem, learn a language to fluency. This involves acquiring a vocabulary of 10,000 to 20,000 words. This is more than enough to handle any topic once specialist vocabulary is added. It is sufficient to provide probably over 99% coverage of most text. It is hard, then, to explain any lack of educational attainment in terms of a deficient vocabulary when everyone seems to have the lexical resources to cope equally. Any difference in educational attainment, in these circumstances, has to come from another influencing factor; something that can drive both lexical size and educational attainment.

5. Conclusions

This study has provided some figures for the vocabulary size of speakers of Greek as an L1 as these speakers pass through primary school. It appears they add about 2 or 3 words a day, every day, to their lexicons. They probably recognise about 8000 or 9000 words of Greek in both aural and written form at age 12, and they will continue to add to their lexicons thereafter. They appear to be like speakers of other languages, therefore, in the rate with which they learn new words, and the size of the lexicon which emerges. The wide variation in the size of the lexicon, noted in other studies of English in North America, is not observed here.

This study also provides estimated sizes for learning in the subjects L2. Here, there is evidence of considerable learning of English before even entering school and receiving formal tuition. This is probably a result of incidental learning through exposure to TV programmes and computer games which are often in English. Progress and attainment at schools is impressive. Subjects in this study complete primary level education knowing, on average, over 4000 words of English. This is far in advance of the expectation of the curriculum and of the attainment of age-equivalent learners in other countries where we have figures for comparison. While the rate of uptake per classroom hour is high, this high attainment is almost certainly supported by the environment for learning that includes positive motivation and support for learning of English, a wide range of good quality support and extension materials with a large vocabulary input across a wide range of topics, and, often, additional private classes extending the hours of instruction.

It is hard to see, in this study, any real evidence for a word gap or systematic deficiencies in the L1 vocabulary knowledge of subjects that might explain poor educational attainment. All subjects in this study appear to be in the process of growing an L1 lexicon of sufficient size to comprehend normal text and handle academic study.

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Appendix

Figure 1

X-Lex Sample (English Version)

English X-Lex Vocabulary Test 1

NAME:
AGE:
HOME LANGUAGE:

Please look at these words. Some of these words are real English words and some are not but are made to look like real words. Please tick the words that you know or can use. Here is an example.

dog✓

Thank you for your help.

that	both	cliff	sandy	candlin	century
with	darrock	stream	military	oak	refer
before	cup	normal	impress	antique	essential
alden	discuss	everywhere	staircase	chart	violent
feel	park	deny	daily	limp	sorrow
round	path	shot	kennard	permission	provide
horozone	tower	waygood	associate	headlong	trick
table	treadaway	independent	conduct	gazard	pedestrian
question	wheel	feeling	relative	fade	produce
effect	whole	bullet	upward	rake	jug
market	perform	gumm	publish	horobin	lessen
woman	pity	nod	insult	mercy	difficult
stand	probable	gentle	sumption	anxious	juice
manomize	signal	slip	humble	pardoe	person
fine	hyslop	diamond	contract	arrow	weather
instead	earn	press	mount	feeble	cardboard
frequid	sweat	cantileen	tube	fishlock	early
group	gillen	drum	moreover	brighten	dish
arrive	manage	reasonable	crisis	dam	believe
litholect	mud	boil	hobrow	outlet	trunk

Figure 2

X-Lex Sample (Greek Version)

Greek X-Lex Vocabulary Test

ΟΝΟΜΑ:
ΕΠΙΠΕΔΟ:
ΓΛΩΣΣΑ ΣΠΙΤΙΟΥ:

Διαβάστε τις επόμενες λέξεις και βάλτε √ αν τις γνωρίζετε και x αν δεν τις γνωρίζετε.

και	συνήθως	λήψη	πολιτισμός	γενεθλιόνη	άτυπος
απελώ	καρκίνος	μοτοσυκλέτα	μεσόγειος	ισόπαλος	επιταχύνω
στρατός	ακόλουθος	εύλογος	καταπληκτικός	χιλιετία	ιδιαίτερος
πολιτισμικός	χαιρετισμός	όμιλος	παγοτούσαμε	πολλαπλασιάζω	πρότυπο
αφορολόγητος	μέρος	σηκώνω	καλημέρα	εξής	κοντός
ορολαντίνια	δημαρχείο	ευαίσθητος	έφοδος	αποζημίωση	χάριν
παίκτης	στοά	αντικατάσταση	αγαπάω	αθτοκιλάδι	θανατηφόρος
πληρώ	γίγαντας	σηματοδοτώ	κάριφος	ιδεολογία	πετσετικός
αως	χρονοδιάγραμμα	προσφέρω	αποχωρώ	μεσολαβώ	εύκολα
πίνω	μεφσίνη	στρομετική	τρόπαιο	μετέωρο	σκαλαμός
αξιόπιστος	αύριο	άθλημα	εθελοντής	λεπό	διαχείριση
πρόθυμος	φίλιος	προειδοποιώ	μεταμόσχευση	λαός	εκκρεμότητα
ετοναί	πιθανώς	νύφη	σκόλιφος	αγωγή	παιδαγωγικός
νίκη	ζήτηση	καταναλώνω	μάχη	εγγραφή	ρύπος
ψήφος	γκράλος	ήττα	καταστρέφω	ντόπιος	προσωπικό
στρατόπεδο	συνεννόηση	ακτοφυλίς	φωτίζω	οβρελός	τοίχος
λουλοδίς	διασπορά	ξεφεύγω	μεταχείριση	νύχι	φότους
τσακάλι	πανεπιστήμιο	ονομασία	ελαστικός	αφορμή	αχμάλωτος
μιμούμαι	διάταξη	παγιδεύω	περί	γραφή	ειρηνοποιός
επιτροπή	ξάφουσα	ρέμα	τοπίο	φιλόδοξος	βρύση

Figure 3

Pic-lex Main Menu Sample

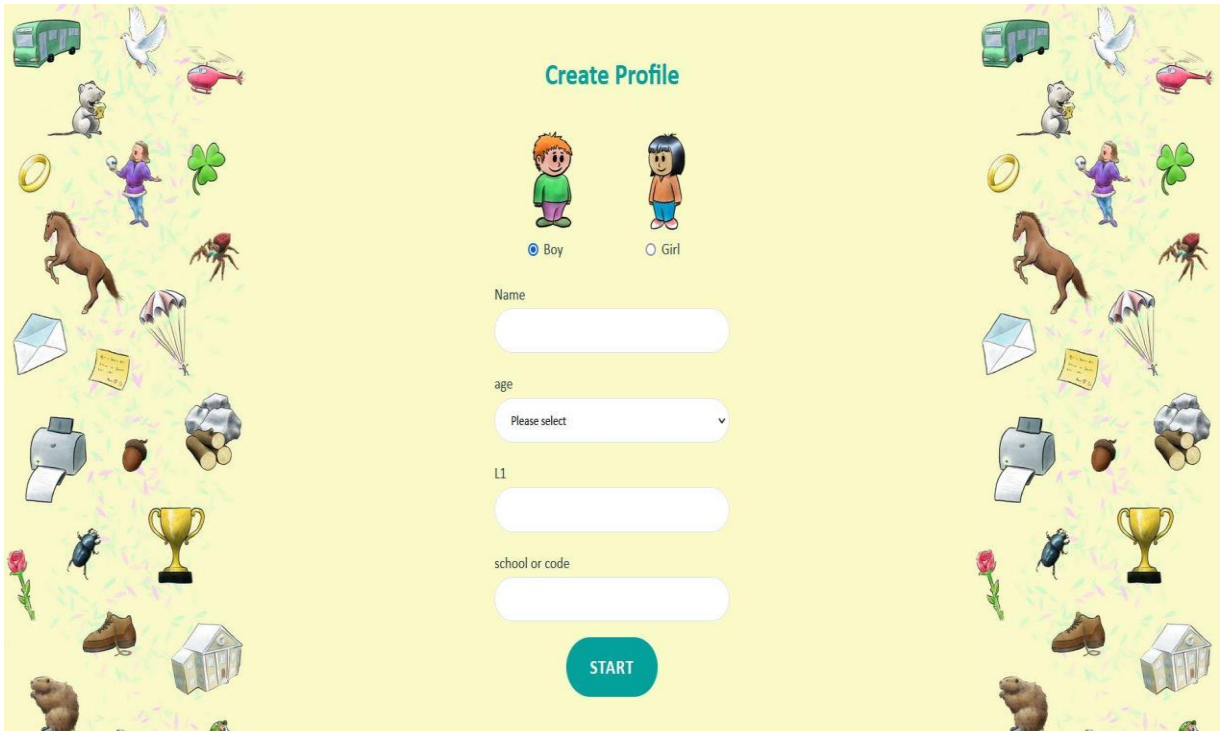

Figure 3

Pic-lex Test Sample

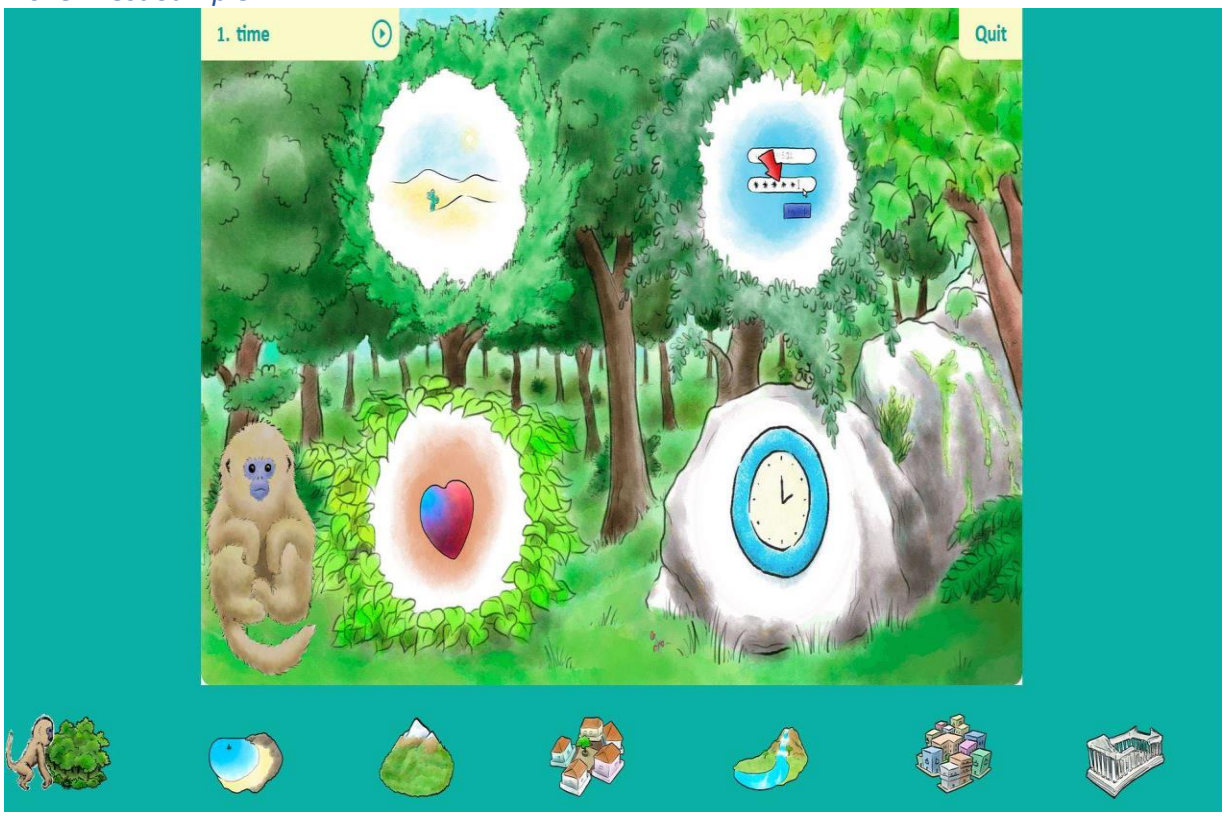

Figure 4

PVLT Sample (English Version)

Name: _____

Boy ☐ Girl ☐

Grade: _____

Home language: _____

Write as many words as you can for every category!

	 Animals	 Body parts	 Clothing
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

Figure 5

PVLT Sample (Greek Version)

	 Φαγητό και Ποτό	 Παιχνίδια	 Μέρη της πόλης
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

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Enriching vocabulary via songs and poems in teaching English as a foreign language

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This paper disseminates the research findings of a study carried out in Greece, which investigated the effectiveness of songs and poems on promoting vocabulary development in foreign language teaching. The data presented here is drawn from senior high school learners, in a Greek state school, aged between 15 to 16 years. Several research tools were used as the main instruments for the collection of data, (i.e., vocabulary knowledge tests and questionnaires) which ensured quantitative interpretation of results, while an observation checklist unearthed a qualitative analysis of the accrued findings. The analysis of the results revealed significant improvement regarding students' vocabulary knowledge and vocabulary skills.

Keywords: Song and poem-based tuition, Lexical improvement, Teenage students, Authentic material, EFL classroom

1. Introduction

Vocabulary acquisition seems to be of utmost importance in foreign language learning, since insufficient vocabulary knowledge in a second language impedes successful communication. It is argued that the more words a learner knows the more language competent one becomes (Schmitt, 2000). Additionally, vocabulary is deemed an essential component of language proficiency that paves the way in facilitating the learners to manage to use the four skills successfully in a foreign/second language. In this sense, the extensive use of lexical items enables learners to interact adequately both in the oral and written medium (Richards & Renandya, 2002). In other words, useful input turns into a productive one facilitating learners to acquire knowledge of the world and to interact in diverse social settings (Kalaitzi, 2020). This focal role of vocabulary in language learning has urged academics to explore the totality of lexical repertoire of English as an FL in various levels as well as the hourly intake of lexis by students. In this vein, Roghani (2017) has tabulated the number of words that students can learn in English as an FL referring to each level of the CEFR (2001) as follows:

CEFR level	Approximate written vocabulary size	Approximate generative task equivalent
A1.1	750	250-350
A1.2	1100	350-500

A2.1	1650	500-750
A2.2	2200	750-1000
B1	2800	1000-1300
B2	3300	1300-1500
C1	4000	1500-1800

Table 1. Productive vocabulary knowledge and CEFR levels (Taken from Roghani, 2017).

The above figures seem to be in line with the estimates presented by Milton and Alexiou (2009) regarding the vocabulary amount, which corresponds to each CEFR (2001) level. Moreover, it should be stated that Cameron (2001) reckoned that the average speed of word uptake per hour can be set at 4 words referring to the young learners' classroom.

Having stressed the importance of vocabulary, it should be mentioned that learners' growth in vocabulary can be achieved through vocabulary activities that introduce language in a meaningful and memorable context; helping, thus, the learners to avoid frustration (Folse, 2004) or demotivation. According to research, songs and poems can be great educational tools that can yield a positive effect on the acquisition of a Foreign/Second language (FL/SL, henceforward) and the lexical evolution of students (Ahmad, 2014, Al-Bakri, 2019 Kusnierek, 2016, Tegge, 2015, Tsaroucha, 2020). This study investigates the effectiveness of a song and poem-based component on boosting the lexical growth of teenage students in the EFL classroom.

2. Theoretical background

Having highlighted the contribution of the acquisition of a plethora of lexical items to the learners' independence in their FL performance, the next section will focus on enhancing their vocabulary through songs and poems.

2.1 Vocabulary development through songs and poems

The importance of songs and poems for a variety of pedagogical purposes such as teaching and acquiring vocabulary items and chunks has been highlighted by previous studies (Aquil, 2012; Claerr & Gargan, 1984; Kerekes, 2015). The main argument supporting these genres is that songs and poems as authentic materials offer learners the opportunity to deal with real life language; thus, exposing them to genuine cultural and linguistic elements by capitalising on their enormous content (Titus, 2017), while, at the same time, the acquisition of novel lexis and the development of linguistic skills are highly advanced. Learners become familiar with the target language particularly in acquiring vocabulary, while the whole learning process becomes meaningful and successful for the language learner (Ruiz, 2015).

Another aspect that cannot be overlooked is the fact that music and songs are a natural component of people's everyday life due to their universal use and are a germane trait of many cultures and societies, which makes them easily accessible to learners. The powerful rhythm and lyrics of songs can conjure a wide range of feelings (McDermont & Hauser, 2005) enabling teenage learners to define and create their identity through them (North, Hargreaves & O'Neill, 2000). Furthermore, senior High school learners have displayed a profound fondness of songs over other text genres, as songs are deemed more entertaining and stimulating by teenagers (Bjorklund, 2002; Ludke, 2010).

A host of studies regarding the contribution of songs and poetic lyrics to the acquisition of an FL have revealed that learners' intrinsic motivation for language learning is highly augmented (Tsaroucha, 2019, Tziotzou, 2013, Vlachou, 2018) claiming that these educational tools can provide a calm and familiar atmosphere which decreases levels of anxiety and stress. A combination of sentimental tunes

and powerful lyrics contribute to learners being more concentrated; thus, increasing their ability to process comprehensible input easier. In other words, learning which takes place in a pleasant and relaxing environment can lower anxiety and boost learners' linguistic skills and confidence towards the target language, since students' focus and attention can be intensified *(*Farmand & Pourgharib, 2013; Ulate, 2007).

Songs and poems seem to strengthen learners' memory of new lexical items and standard word structures as well as everyday expressions (Chan & Fang, n.d; Fabb 2015; Foncesa; 2000; Lake, 2002; Murphey, 1990), owing to their ample content of rhyme, stress and repetitive patterns, which trigger the enhancement of the mastery of these forms and empower students to employ lexical items in appropriate contexts. Seemingly, the poetic genre incorporates many alliterations, triggering the learners' memorization of new FL words (Kanonidou & Papachristou, 2018).

Moreover, the repeated linguistic structures of songs enable learners to achieve language awareness which then speeds up linguistic amelioration. When this unconscious learning mechanism is activated, students become fluent and produce language incessantly (Gatbonton & Segalowitz, 1988), laying out the foundation for constructive input; therefore, they proceed from the receptive phase to the productive one. In other words, the subliminal stimuli induced by the repetitive nature of the songs is the collateral of boundless learning, while learners' cognition is also increased. Moreover, the everyday linguistic items found in songs prepare students for real life oral communication, strengthening their linguistic repertoire (Papantoni, 2021).

Consequently, the use of songs has become a common practice as a teaching method for many teachers (Kusnierek, 2016). In the same vein, Ength (2013) postulates that the effectiveness of songs on vocabulary learning has been unravelled. On the other end of the spectrum, there are contradictory feelings about implementing songs in the EFL classroom. Many language teachers are reluctant to use songs in their teaching practices considering them to be inappropriate teaching materials which serve only entertainment purposes and may distract the students rather than enhance their interest in the lesson (Kanonidou & Papachristou, 2018).

Another argument levelled against songs and poems is a lack of knowledge on the part of the teacher regarding the implementation of these means in the teaching and learning process (Segal, 2014). Nevertheless, many empirical studies claim that there is a need for further studies on that matter. Specifically, there are few studies on how effectively poems can promote second language learning and students' positive attitudes towards learning.

3. Research methodology

Having presented the significance of lexical ability in the successful students' performance in the FL and its enhancement through poem and song-based tuition, this part will elaborate on the research methodology of the current study.

3.1 Purpose of the study

This research, which is part of a more extensive one (Papantoni, 2021) that investigated the efficacy of the song and poem-based framework in students' lexical acquisition and motivation increase, aims at exploring the effectiveness of songs and poems on senior Greek lyceum students' vocabulary development. In this vein, the subsequent research questions were articulated:

1. To what degree do songs facilitate vocabulary acquisition in teaching English as an FL?
2. Do poems advance lexical acquisition in teaching English as an FL?

3.2 Participants

The participants involved in this study were two groups of 23 students each. In total forty-six first year high school students from a state school in central Greece attended the intervention lessons revolving around poems and songs. A very high percentage of the students mastered only the Greek language and only three learners were bilingual. For most learners the language level varied from B2 to C1 level in agreement with the upper intermediate level determined by the common European Framework (CERF, 2018). All students provided information about their gender. Twenty-four of them (52,2%) were male, while 22 (47,8%) were female (Table 2, Figure 1).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	24	52,2	52,2	52,2
	Female	22	47,8	47,8	100,0
	Total	46	100,0	100,0	

Table 2. Gender information (Taken from Papantonti, 2021).

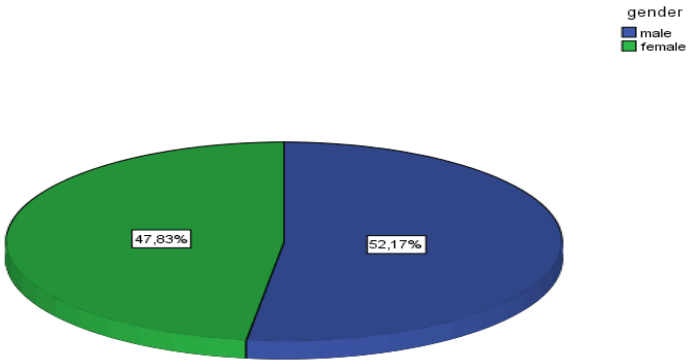

Figure 1. Gender percentages (Taken from Papantonti, 2021).

3.3 Research methodology

The implemented research tools were both quantitative (a needs analysis questionnaire, a post questionnaire, and a pre and post-test assessing vocabulary improvement) and qualitative (an observation checklist). Additionally, the students attended six lessons (that is, three songs and three poems incorporating vocabulary related activities). This paper will focus only on parts of the quantitative instruments. More specifically, specific items from the two questionnaires will be put under the lens. Furthermore, the pre and post-test will be meticulously elaborated on in order to establish the verification of the research questions or lack thereof.

3.3.1 The questionnaires

A needs analysis questionnaire as well as a post evaluation questionnaire were designed in order to collect the appropriate data regarding students' stances concerning vocabulary assimilation by means of the song and poem component. The questionnaire was chosen as a research tool on account that it is easy for researchers to formulate precise questions, and moreover, through this instrument lucid

findings are collected (Dörnyei, 2003 cited in Anastasiadou, 2014). They also keep the researcher's involvement to a minimum, which could undermine the objectivity of the research results (Koufopoulou & Karagianni, 2021). Another important trait of the questionnaires is that they ensure confidentiality protecting the respondents' anonymity; therefore, reinforcing their reliability as research tools compared to other research instruments, in which the participants could be influenced by the research conductor (Cohen et al., 2007).

The needs analysis questionnaire was administered prior to the study and consisted of three main sections, which used items linked to the research questions. In section I, the participants had to complete personal information either by filling in missing information or by checking appropriate boxes. Section II included 11 Likert scale questions which addressed the participants' general perceptions about songs and poems and their opinions concerning their use in the EFL teaching milieu (Appendix I-A). In the third section (Appendix I-B), the learners were given 10 different vocabulary learning strategies and had to rank them according to their preferences (Figure 2). This section ended with a non-obligatory open-ended question in which respondents had the opportunity to express other means of learning FL lexis (total number 21 questions).

Likewise, the post evaluation questionnaire (Appendix II) was distributed after the completion of the song and poem-based intervention lessons to evaluate whether there was a significant difference in learners' vocabulary development. It consisted of 12 close-ended questions on a five-point rate level of agreement alternating from "strongly agree to strongly disagree". The questions were related to lexical amelioration, vocabulary activities along with the impact of song and poem-based framework (Papantoni, 2021).

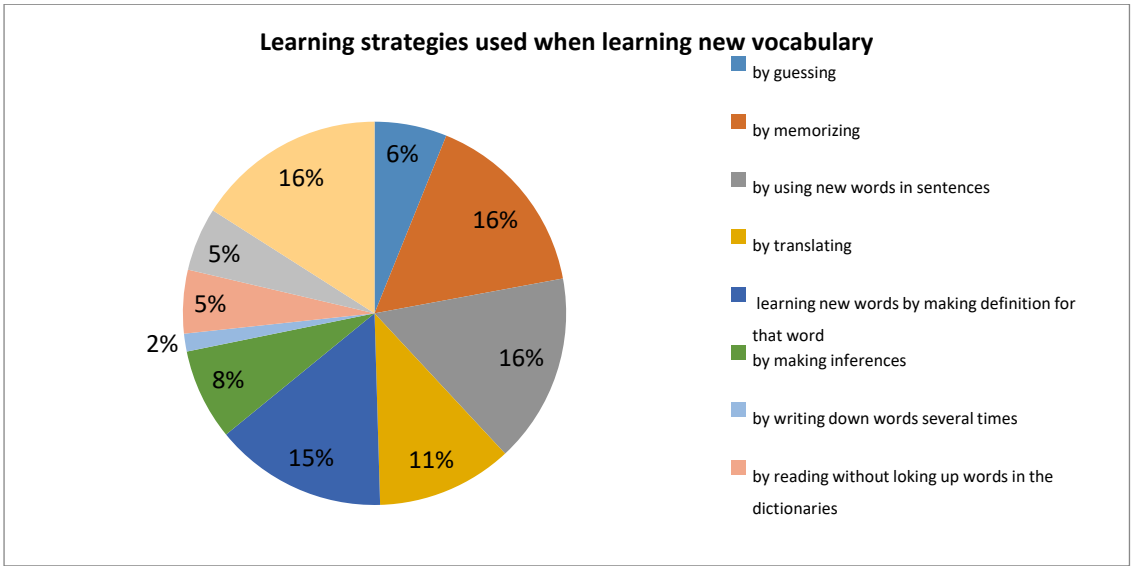

Figure 2. Learners learning strategies for vocabulary learning (Taken from Papantoni, 2021).

3.3.2 Pre-post vocabulary test

A pre and post intervention vocabulary test was designed prior and after the implementation of the lessons in order to collect factual data that determine learners' vocabulary knowledge. The vocabulary level tests (VLT) are appropriate as a methodological tool in order to measure vocabulary size from a number of words correctly selected by the learners (Laufer & Nation, 1995). The vocabulary tests consisted of 38 items containing a wide range of relevant lexis. More specifically, it consisted of 3 parts: the first one (25 items) involved multiple choice statements, the second one consisted of 6 items asking the students to "find the odd word out", while the third one comprised 7 gap-completion

sentences. The participants were asked to fill in the appropriate vocabulary components, while each correct response was awarded one point. More specifically, the pre-test attempted to define the learners' familiarisation with thirty-seven pre-determined words, which were incorporated into the song lyrics and the poetic verses. It should be mentioned here that both the songs and poems contained unknown vocabulary. The post-test included the same items seeking to identify whether the participants had acquired the new words.

3.3.3 The intervention

The intervention involved two different types of language input, namely listening and reading *input* using songs and poems respectively. Each lesson lasted two teaching sessions (i.e. 90 minutes). There were six intervention lessons in total including three lessons with authentic poems and the remaining three with pop songs. The tasks carried out in each lesson were designed taking into consideration the results from the needs analysis questionnaire regarding the kind of learning strategies students use when dealing with new lexical items (Figure 2). All students grappled with novel words via diverse tasks including brainstorming, visual aids and mind maps of the vocabulary under investigation in the pre phase, vocabulary clustering and word classification according to proper connotations in the 'while' stage along with group and pair work mostly in the post stage.

Particularly, one of the song-based lessons was designed around Adele's (Adele & Epworth, 2011) song "*Rolling in the deep*". The teacher planned assorted activities for all the stages that the lesson was divided into. Starting with the pre-listening stage, a mind map activity with different words included in the lyrics of the song was given to the students in order to introduce the song theme. Students then had to guess the content of the song theme and think of a title which they would write in the inner circle of the mind map. By doing so, learners' prediction and inference skills were enhanced. Furthermore, to activate background schemata (Rost, 2016) the participants answered questions revolving around the song topic and reported their answers to their classmates. Reaching the while listening stage, learners listened to the song and filled in the blanks with appropriate lexical items. In this activity learners listened for specific words in the song and were exposed to bottom-up listening (ibid, 2016). The aim of the three following activities was to help the learners to reinforce and recognize specific lexical items by working with definitions, matching and replacing words in bold with words with similar meaning. In the last stage, the students had to take some points into consideration and develop a short form of writing on a topic pertaining to the theme song and voice their answers to their fellow students. The last activity involved asking learners to imagine the story behind the lyrics of the song by using their imagination and producing a written story. In the end, students voted for the best story.

The poem *"Thermopylae"* (Kavafis, 1903) was selected for the poem-based lesson, as it is related to unit 3 of the course book (English 1 of Greek Lyceum (Greek: Αγγλικά 1 Γενικού Λυκείου, Νίκα & Παπαδημητρίου, 2017). The first stage familiarised learners with the poem topic through inferring and brainstorming. In the 'while' stage, the participants were assigned a matching activity with the aim of promoting their capacity to decipher vocabulary. Next, they enriched their lexical repository by means of hard focus reading and word clustering. The third stage encouraged writing, since the students were assigned to produce a letter focusing on the main points of the poem.

3.4 Data analysis

All data analyses were conducted through the SPSS version 22.0.0. More specifically, in order to test the findings of the questionnaires the Cronbach's Alpha index was employed as a means of measuring internal stability, to gauge whether the pre and post assessment questions were reliable or not. The Wilcoxon signed ranks test was conducted to compare the hypothetical means of the pre

questionnaire to the mean values of the post questionnaire and to analyse their significance. Moreover, this type of test is acknowledged most appropriate for findings collected by means of ordinal Likert scale (Tzotzou, 2013). Finally, a paired samples *t*-test was used to compare and contrast the pre- and post-vocabulary test grades in order to identify any lexical improvement or lack thereof.

4. Presentation and discussion of the results

The results derived from the mixed research method approach helped the researchers to obtain data, evaluate them and draw some observable outcomes regarding the instruction of song and poem-based lessons. Based on the findings of the analysis of the questionnaires as well as the pre and post-test, the researchers will attempt to reassess the research questions and see if they were validated.

4.1 Presentation and discussion of the findings collected from the questionnaires

The primary preoccupation of the researchers was to ensure the reliability of the questionnaires and so Cronbach's alpha index was implemented to monitor the reliability of the items for both the pre- and post-evaluation questionnaire (Tables 3, 4). A minimum alpha coefficient greater than 0.65 is acceptable, whereas a coefficient higher than 0.8 is highly appreciated denoting significant reliability.

Cronbach's Alpha	N of Items
,901	11

Table 3. Reliability Statistics (Taken from Papantoni).

Regarding the Pre-questionnaire, ***Cronbach's alpha index*** reached 0,901 of the11 items. So, it can be argued that the totality of the questionnaire has high reliability research wise (Appendix I-A).

Cronbach's Alpha	N of Items
,655	12

Table 4. Reliability Statistics (Taken from Papantoni).

In table 4, Cronbach's alpha index for the post-evaluation questionnaire equals 0,655 of the 12 items. In this sense, the post-evaluation questionnaire is acceptably reliable (Appendix II).

The Wilcoxon signed ranks test was implemented as it is deemed appropriate for findings gathered via an ordinal Likert scale (Tzotzou, 2013)**.** The statistical findings of both questionnaires are introduced in Table 5 in which only six items out of the twelve will be elaborated on, since the remaining ones focused on motivation.

Paired sentences		Mean Difference	p-value	Statistic Significance
Pair 1	Poems created a positive learning environment - Poems will create a positive learning environment	0,5435	0,000	ss
Pair 2	I really prefer learning vocabulary through songs - I prefer learning vocabulary through songs	0,5000	0,001	ss
Pair 3	I really prefer learning vocabulary	0,8913	0,000	ss

	through poems - I prefer learning vocabulary through poems			
Pair 4	The lyrics of the songs helped me to remember new vocabulary better - It is easier to learn new words through the lyrics of a song	-0,2391	0,104	nss
Pair 5	The verses of the poems helped me to remember new vocabulary better – Poems facilitate vocabulary learning as they often include a lot of repetition	0,3261	0,053	nss
Pair 6	The tasks helped me to learn new words easier -Songs and poems will help me improve my English	0,3478	0,023	ss

ss: significant statistically
nss: no significant statistically

Table 5. WilcoxonTest statistics (Taken from Papantoni).

Statistically significant findings were found in pairs 1, 2, 3 and 6, while pair number five exhibited a marginal statistical variation highlighting that the participants acknowledged the contribution of poems and songs to their linguistic improvement. These findings are in accordance with results of previous studies (Ahmad, 2014, Al-Bakri, 2019 Kusnierek, 2016, Tegge, 2015, Tsaroucha, 2020) which also pinpointed the efficiency of poem and song-based tuition to enhance students' lexical capacity. The results are also in line with the ones from germane studies (Kusnierek, 2016; Peters &Webb, 2018; Rahmawati, 2010; Zamin et al., 2020) which also underscored the positive effect of the lyrics of the songs on the improvement of learners' vocabulary supply, since they constitute an appropriate authentic input in the FL. Moreover, they are in accordance with Özen's (2012) findings, which pinpointed that tasks grounded on poems aid students to expand their lexical knowledge in the EFL classroom.
Thus, it can be stated that the two research questions were corroborated.

4.2 The analysis and interpretation of the pre and post vocabulary test

Through the pretest learners' prior lexical capacity was assessed while the post-test measured the learners' performance in the same vocabulary items after the implementation of the intervention. The findings in both tests were gathered and juxtaposed. Any significant variation between the score of the tests will indicate the effect of the researchers' intervention on the learners' lexical advancement. The totality of accurate responses was 38, for the two tests, and one point was awarded for every appropriate answer. Table 6 exhibits the students' scores on the two tests. The outcomes of both tests were collected and collated. The dissimilarities between the scores of the tests indicate a positive impact.

Grade	Number of students who scored for pre-test	Number of students who scored for post-test
75% - 100%	14	35
50% - 74%	23	10
0% - 49%	9	1

Table 6. Pre-and post-vocabulary test results (Taken from Papantoni, 2021).

Table 6 demonstrates the number of participants and the scores they achieved on the pre-test and the post-test respectively. In the pre-test, the number of learners who failed the test or reached a score of 49% outnumbered the students in the post test by 8. Moreover, the number of students who

received a grade of 50% - 74% decreased to 10 in the post vocabulary test in comparison to the number of students (23) displaying the same grade in the pre-test. By interpreting the figures, it can be concluded that more students performed better on the post-test. Specifically, 14 students achieved 75% or a higher score on the pretest, whereas in the post test the number of students who reached the same percentage soared to 35. Only one participant failed to exceed 49%. In other words, most of the students provided correct answers to almost all the questions.

Therefore, it can be safely claimed, by scrutinising the data accrued from the post-test to the scores of the pre-test, that the song and poem-based tuition had a positive effect on the participants' vocabulary acquisition. These results corroborate the findings in Maneshi's (2017) research, showing that the frequent rate of small word units and multi-word items in songs accelerate lexical advancement after an extended period.

Additionally, bearing in mind the high variance in the grades obtained in the post-test in comparison to the ones in the pre-test, it can be deduced that the learning and maintenance of recently learnt lexis was achieved, due to the exploitation of songs and poems. Furthermore, the scores of the two tests underwent statistical analysis in order to determine whether there are any noteworthy discrepancies in students' performances. A paired sample *t*-test was tabulated in order to obtain the mean as seen in table 7 below.

Paired Samples Statistics					
Pair 1		Mean	N	Std.Deviation	Std.ErrorMean
	Pre test	24,87	46	6,462	,953
	Post test	29,61	46	6,920	1,020

Table 7: Learners' performance in pre and post-test (Taken from Papantoni, 2021).

Table 7 and 8 indicate that a remarkable diversity arises when the vocabulary pre-test scores are contrasted (M=24, 87, SD=6,462) to the post-test results (M=29,61, SD=6,920) grades; *t* (45) =10,485, p=0,001.

Paired Samples Test Paired Differences 95% Confidence Interval of the Difference Std Error								
	Mean	Std.Deviation	Mean	Lower	Upper	t	df	Sig (2-tailed)
Pair 1 Pretest-Posttest	4,739	3,065	,452	5,649	3,829	10485	45	<,001

Table 8. Comparison of the vocabulary pretest and post-test results (Taken from Papantoni, 2021).

The mean value denotes that the results of the post vocabulary test are excessively higher in comparison to the ones of the pre-vocabulary test. Moreover, the *t*-test result shows that statistically there is a striking dissimilarity between the two tests at a p<0,05 significance level. These results indicate that the students exhibited an immensely better performance in the post-test than in the pretest session.

This difference is a strong indication of the assumption that song and poem-based lessons improve students' vocabulary skills, augment their vocabulary knowledge and overall have a remarkable advantage for students acquiring new lexical items. Particularly, in this data set the song and poem-

based lessons improved the scores, on average, by approximately 4 points. The number of correct answers that were given by the learners who participated in the research before the implementation of the song and poem-based lessons, amounted to 1267 out of 1748. After the four-week period of the intervention lessons, the correct responses climbed to 1452 (Figure 3).

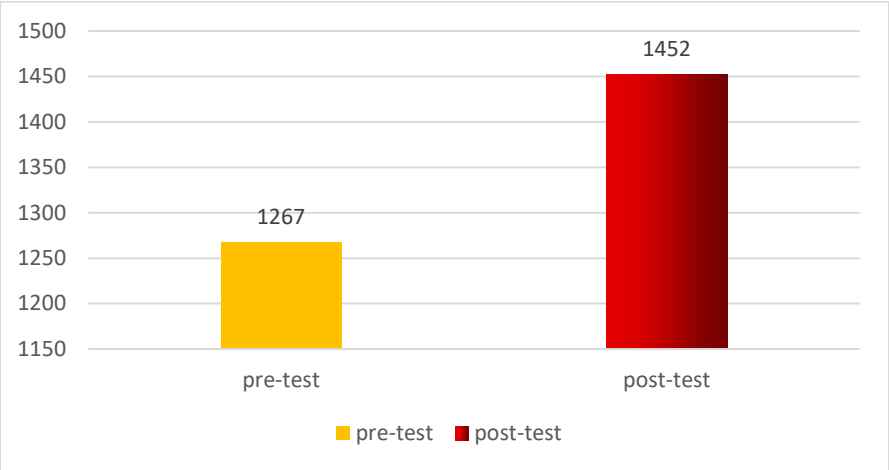

Figure 3. The scores achieved in the pre- and post-vocabulary tests (Taken from Papantoni, 2021).

Additionally, taking into account the high variation in the scores on the post-test in comparison to those on the pre-test, it can be claimed that the use of authentic materials in the EFL classroom has a beneficial effect on learners' vocabulary knowledge. This significant differentiation leads to the assumption that the song and poem-based teaching framework enhances learners' vocabulary skills, expands their vocabulary knowledge and in general eases the learning process, while at the same time helping the learners to acquire new lexical items.

These findings are in agreement with previous studies (Al-Bakri, 2019) which aimed at developing learners' vocabulary through poetry revealing that the students benefited from its contribution and increased their vocabulary competence. Tegge (2015) also explored the tuition of songs and its effect on vocabulary items claiming that songs had a beneficial impact on students' learning and the retention of vocabulary by virtue of the emotions that songs can invoke. Furthermore, the song lyrics aid students to experiment with contextualised vocabulary, which according to Barabadi and Khajavi (2016) enhances their dexterity of deducing the meaning of novel words.

The findings under discussion are also tuned with Segal's (2014) who claims that songs lower students' anxiety level and facilitate learning. Moreover, the implementation of songs in language tuition creates a positive classroom environment in which learning becomes more enjoyable inspiring learners to maximise their performance as proposed by Ength (2013) and Alisaari & Heikola (2017).

Thus, the comparison of the two tests can help us to deduce that both research questions were verified (i.e., both song and poem-based tuition augmented students' lexical capacity).

5. Recommendations for further research

The benefits of the application of poems and songs in the EFL classroom in relation to students' vocabulary development was highlighted in the present study. Nevertheless, more studies could be conducted with a larger number of student population, at different proficiency levels, namely primary and tertiary students (Zamin et al, 2020) with a view to accruing more data concerning the contribution of poems and songs to the increase of the learners' lexical repertoire.

Another research would involve the investigation of word uptake both per hour and during the intervention by using Roghani's (2017), Alexiou & Milton's (2009), Roghani & Milton's (2017) as well as Meara and Milton's checklist *X-Lex test* (2003) and Nation and Beglar's *Vocabulary Size test* (2007) (as cited in Alexiou, Roghani & Milton, 2019) recommendations for vocabulary measurement in the level B2-C1 within the song and poem-based framework.

Furthermore, a post-delayed test, that is two months after the implementation of the intervention would unravel and fortify the retention of vocabulary improvement or lack thereof.

6. Conclusion

The findings of the current study yielded that the implementation of authentic materials such as songs and poems in the learning procedure had a positive impact on the learners' vocabulary improvement. The pre-test results indicated that the participants' pre-existing vocabulary knowledge of specific selected lexical items was rather restricted. After a four-week period when the forty-six participants attended the intervention lessons, a post-test was given to them including the same questions to measure any differentiation in the acquisition of the target vocabulary items. The post-test results demonstrated that there was a significant difference in the learners' overall performance. The paired samples *T*–tests mean also statistically confirm the contrast in scores prior and after the sessions. This difference in scores of the two vocabulary-size tests can be used as an index which quite safely unravels that the students' lexical repository was largely upgraded. Moreover, the comparison of the two questionnaires showed that the respondents acknowledged the contribution of songs and poems to their linguistic advancement. Thus, it was concluded that the application of songs and poems in teaching English as an FL triggered the assimilation of the newly taught words.

Several pedagogical implications spring from the research findings which can be conducive to the improvement of teaching practices. Using songs and poems as instructional means provide frequent opportunities to the students with the aim of learning new words through interesting and enjoyable activities. The authentic nature of songs enables teachers to offer students the chance to master unknown lexical items and experiment with language. Moreover, the fun element and entertainment inherent in the songs and poems make learners less apprehensive of the language lesson and render them relaxed, which facilitates the learning process.

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Appendix I

Pre- Questionnaire

A

Put a √ next to the box of your preference (Taken from Papantoni, 2021)

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1. The song-based lessons will help me enhance my interest towards the lessons					
2.The poem based lessons will help me enhance my interest in the lessons					
3.Songs will create a positive learning environment					
4.Poems will create a positive learning environment					
5. I prefer learning vocabulary through songs					
6. I prefer learning vocabulary through poems					
7. It is easier to learn new words through the lyrics of a song					
8.Poems facilitate vocabulary learning as they often include a lot of repetition					
9. Through songs I remember new vocabulary better					
10.Through poems I remember new vocabulary better					
11. Songs and poems will help me improve my English					

B Learning strategies (Taken from Papantoni, 2021).

When learning new vocabulary do you like learning? (put a tick to show your preferences there may be more than one)
By memorizing new words ----------
By guessing the meaning ----------
By reading without looking up words in the dictionaries ----------
By learning new words-------
By translating new words----------

By using new words in sentences ----------
By making inferences from the context----------
By saying loudly ------
By writing down words several times
Other (specify please) …..

Appendix II: Post-evaluation Questionnaire (Taken from Papantoni, 2021).

Put a √ next to the box of your preference

	Strongly disagree	disagree	Neither agree or disagree	agree	Strongly agree
1. The song based lessons enhanced my interest in the lessons					
2.The poem based lessons enhanced my interest in the lessons					
3.Songs created a positive learning environment					
4.Poems created a positive learning environment					
5. I really prefer learning vocabulary through songs					
6. I really prefer learning vocabulary through poems					
7.. The lyrics of the songs helped me to remember new vocabulary better					
8. The verses of the poems helped me to remember new vocabulary better					
9 I liked the selected songs					
10. I liked reading the poems					
11. The vocabulary tasks were interesting					
12 The tasks helped me to learn new words easier					

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Book review

Vocabulary in the Foreign Language Curriculum: Principles for Effective Instruction
James Milton & Oliver Hopwood (2023). New York, Routledge, 216 pp.
ISBN: 978-1-03224485-3

Vocabulary learning is crucially important for communication and it is an element of the language that should feature prominently in any foreign language curriculum if it is to be successful. There is now a mountain of academic literature on vocabulary learning and teaching and yet, strangely, this makes its way only imperfectly, if at all, into the practice of teachers, materials writers, and curriculum designers. This is probably the first book length treatment of how vocabulary should properly be fitted into an effective curriculum: how many words need to be taught, how many need to be learned, which words, how are they to be sequenced and spread across the curriculum, and how are words to be treated so the learner can become communicative? The writers of this book lay out the details that answer these questions. They have a secondary agenda, too, in doing this, which is to 'hold a mirror up to poor curriculum practice' (p.x) and to explain, so others may avoid the same mistakes, just how a poorly designed and ill-informed curriculum has so catastrophically damaged foreign language teaching in schools in England.

Milton and Hopwood organise their material into a Preface and 11 chapters in three sections. The Preface explains that successful vocabulary learning is, at root, all about numbers. Learners, to become communicative in a European foreign language, will need to learn thousands of words and the curriculum has to organise this. There is no short-cut.

The first section explains the background to this. Chapter 1 explains the huge growth in vocabulary research which could, and should, inform curriculum design and teaching practice. Chapter 2 provides a background and explains what vocabulary is. Teachers often know a lot more about, say, the grammar of the language they teach than its vocabulary. Chapter 3 details how vital vocabulary knowledge is for communication. It is probably the single most important element of learning that explains learner proficiency and progression. Chapter 4 considers how words are learned. The curriculum has to manage a lot more in vocabulary learning than the form and meaning link. Vocabulary knowledge is complicated and vocabulary teaching probably cannot all be managed by the teacher in class.

The second section provides the principal content of the book. How many words need to be taught and learned. Vocabulary size is linked to communicative performance. It can even be said (Alderson, 2005) that language proficiency is a function of vocabulary size. Milton and Hopwood provide numbers, linked to the CEFR hierarchy, of how many words are needed to attain communicative goals. They tabulate how many words need to be learned, how many taught, and likely learning time, at each CEFR level. This is information that curriculum designers should know and use and yet, until now, the vocabulary content of the curriculum seems to have been a matter of intuition, guesswork and

personal idiosyncrasy. Chapter 6 describes the selection of these words, which need to be spread across the frequency bands. This is required to provide both the range of topic vocabulary needed for communication, but also the number of examples for things like language structure to develop as an automatic system. This is modelled. Chapter 7, outlines and explains the errors in a number of vocabulary myths prominent in the English teaching system. Sadly, some of these myths are not new. The idea that grammar is far more important to the mastery of a foreign language than vocabulary, is an example. This is not true. But, additionally, the English system has created some of its own myths. The idea that you really do not need many words to be fully proficient, is one, and that you can be fully proficient with a lexicon of only highly frequent words, is another. The evidence to contradict these ideas is overwhelming and yet, in England, they form the basis of curriculum design.

The final section explains how a vocabulary curriculum can be put into practice, through the design and content of the textbook and teaching materials (Chapter 8), the contribution of the teacher (Chapter 9), and through a range of informal activities conducted outside the classroom (Chapter 10). Milton and Hopwood are aware that the teaching of words for communication requires inculcating a knowledge of depth and considerable automaticity. This requires exposure and practice that probably cannot be confined to the classroom. Finally, Chapter 11, draws attention to some of the implications and the potential pitfalls of a well-designed vocabulary curriculum. There is a potential danger, for example, in the curriculum becoming over-prescriptive and allowing neither teacher nor learner to individualise learning, where appropriate to reflect local and personal needs. A curriculum is necessarily prescriptive, of course, but Milton and Hopwood explain that the curriculum design they propose can accommodate some flexibility.

This book, then, is an excellent, original and much needed work which provides principled guidance and structure in an area of curriculum design which is characterised by an absence of clear principle and idiosyncrasy (Catalán & Fransisco 2008), and by a 'strange nonchalance' (Dodigovich & Agustín-Llach 2020). It draws extensively on research to support its proposals. Some of this research is recent but much of it is not so it is strange that this material has not made its way, systematically, into teaching practice and curriculum design. Issues of the vocabulary sizes associated with CEFR levels, for example, have been in the domain of teachers for decades. The widely used *Swansea Placement Test* (Meara & Milton 2003), provides a hierarchy of vocabulary sizes linked to exams and CEFR levels, as do Milton and Alexiou (2009). As far back as 1980, Hindmarsh produced a list of about 4500 words and expressions linked to Cambridge FCE and CEFR B2 level. Yet, these numbers almost never transfer to curriculum design. This leaves teachers and learners, alike, in a limbo of ignorance as to how much vocabulary should be learned. But they could and should be told, and this book unambiguously provides this information.

For a book that might be seen as dry and academic, it is both engaging and interesting. The writers make good use of novel ways to illustrate their ideas and engage readers at every level of the language teaching profession. The S-curve of comprehension, for example (in Chapter 3) explains graphically how the relationship between vocabulary size and comprehension is not straight-line. While the idea that the more words a learner knows, the better they get, is broadly true, there are thresholds in place defined by critical mass. Learners will need to know at least 2000 words before they are likely to know sufficient words in any normal text to take the least understanding, and only after this will something like that straight-line relationship emerge. Learners will, and must, spend a lot of time learning vocabulary before communication can really emerge. The archery target graphics, in Chapter 6, likewise illustrate how the words that comprise curriculum content should ideally aggregate year on year and can, ideally, be spread across the frequency bands for best learning effect. The illustrations of what learners' lexicons should look like, as defined by frequency profiles, may well be new to teachers (and, sadly, to curriculum designers) but should help enormously in enabling them to understand what the vocabulary learning goal should be. Perfect knowledge of the most frequent

vocabulary bands is not, clearly, a requirement of intermediate levels of proficiency. Progress through the CEFR bands is much more a product of the growth in topical, infrequent vocabulary, than by a growth in structural vocabulary. This less frequent topical vocabulary is also what makes teaching materials varied and effective. Learners need both frequent, structural vocabulary and infrequent tropical vocabulary for communication, of course, but not one to the exclusion of the other. The book helps define what successful vocabulary development looks like and what the curriculum should define to get the balance right.

In addition to illustrating the content of the curriculum, Milton and Hopwood take the trouble to help clarify some of the confusions in terminology over how words and word knowledge is acquired. Terms like implicit, incidental and informal learning are used frequently to help explain how elements of the vocabulary curriculum are learned, but every writer has a different idea of what these mean. Some elements of vocabulary clearly require explicit treatment. Learning a new word form and linking it to meaning requires explicit attention from the learner, probably helped by the teacher in class and in designated work outside class. The learners need to explicitly notice these things as a first step to committing them to memory and use. Other aspects of vocabulary knowledge may be different. Developing the automaticity of word knowledge that can lead to fast and fluent reading may not require that the learner is deliberately and explicitly attempting to get faster and faster. Practices like extensive reading will develop this, even if the reader has no learning focus. Teachers can be misled in what to expect from incidental learning because of the confusion over terminology and the writers bring order to this confusion.

There are many insightful features of this book that should become the standard work in its field. However, Milton and Hopwood have produced a work that is sufficiently comprehensive for it to be used more widely in teacher education, and it need not be restricted to the narrow confines of curriculum writers. Its background to what vocabulary is, how vocabulary is learned, the relationship between vocabulary and proficiency, and its use of research in the area, is well enough developed for the book to be used more widely as a general text for students and teacher trainers.

This book should be required reading for everyone involved in the foreign language teaching profession: teachers, teacher trainers, materials writers, exam writers, curriculum designers and of course educational policy makers. Vocabulary is so important in learning a foreign language, that defining the vocabulary content of teaching needs to be a priority and not, as it currently seems to be, an incidental and often ill-thought-through part of the process. It is worth emphasising the absence of any other text like this that is available, and how important it should be for the development of effective language teaching practice. Its precepts should be put into practice and, as the writers acknowledge, this will often lead to significant and wide-ranging changes in teaching and curriculum design. It is a paradigm-shifting treatment of the subject that *should* lead to a very different approach to curriculum creation where vocabulary is at the heart of the process and which should make these curriculums consistently effective. Milton and Hopwood's book is the most important contribution to the literature on language teaching in a generation.

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