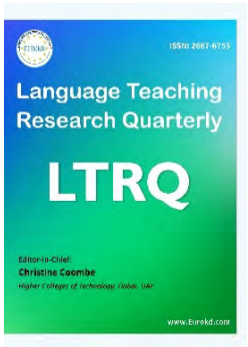

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Strategy Repertoire of Heritage Language Speakers in Narration and Conversation

Zoe Gavriilidou[1, 2]*, Lydia Mitits[1], Karen Chanagkian[3]

[1]Democritus University of Thrace, Greece
[2]University of Chicago, the USA
[3] University of Granada, Spain

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Abstract

The purpose of this corpus-based study is a bottom-up investigation of strategic devices used by heritage language speakers (HLSs) during narration and conversation. It offers a critical review of compensation/communication strategy definitions and classifications, and presents the results of an investigation into strategies employed by an under-researched target group, that of HLSs. The study is not based on any a priori classification scheme; rather it is data-driven. Conversation analysis used to analyze the data revealed, among other, that the 70 Greek HLSs, a heterogeneous group with diverse linguistic, cultural, and affective characteristics from the U.S. (Chicago) and Russia (Moscow and St. Petersburg), employed 14 strategic resources. All three communities used the same strategies, except for loanblends, which were used only by HLSs from Chicago. The latter also exhibited a more frequent use of strategies overall. We conclude that, in spite of their linguistic challenges, the HLSs were capable of achieving their interactional goals. HLSs generally have opportunities to use HL in the community/family, which enriches their strategic repertoires and facilitates language production. However, not all HL environments are language conductive and, as a result, HL learners' curricula should provide explicit strategy instruction in order to increase their speaking skill.

Keywords: *Strategic Devices for Communication, Corpus-based Study, Greek Heritage Language, Heritage Speakers, Conversation Analysis*

[1]Introduction

In the last 40 years, research in additional language acquisition has paid special attention to language learners' communication strategies which were viewed as conscious (Dörnyei & Scott, 1997; Faerch & Kasper, 1983) compensatory mechanisms (Canale & Swain, 1980;

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* Corresponding author.
E-mail address: zgavriilidou@uchicago.edu https://doi.org/10.32038/ltrq.2024.41.11

Dörnyei & Scott, 1997) for dealing with deficiencies during communication. However, by focusing on the notion of compensation, researchers have emphasized what target language learners are not capable of doing, thus veiling their purposeful, positive strategies employed during communication. Current research, however, has highlighted that those mechanisms, such as self-repair or restarts, initially considered in previous literature as deficit indicators, actually demonstrate "a fine-tuned ability to deal with contingencies in interaction" (Burch, 2014, p.653). In addition, the focus in the field was on creating general or detailed (meta)-taxonomies (Dörnyei & Scott, 1997; Færch & Kasper, 1983; Tarone, 1977) describing particular communication strategy characteristics which would allow for quantitative research that aims for generalizability of the results. However, some scholars emphasized that, on the one hand, these taxonomies obscure the interactional data (Burch, 2014; Hauser, 2005) and, on the other, they "reflect what the analyst views as relevant or important" (Burch, 2014, p.660). Therefore, the categories included in the taxonomies may be subjective, discrete, and isolated, while strategy use during communication is dynamic.

Literature Review

Becoming a successful language user involves developing communicative competence. The term, introduced by Hymes (1972), extends beyond the grammatical correctness of sentences and includes socio-cultural dimensions. Canale and Swain (1980) furthered this notion, identifying four dimensions of communicative competence: grammatical, sociolinguistic, discourse, and strategic. Strategic competence can be defined as the manipulation of language by learners to achieve communicative goals and is considered the pivotal element in communicative competence (Yule & Tarone, 1990). According to Paribakht (1985), strategic competence is best understood as the learner's skills to access various solutions to language learning and language use problems. Brown (2000) also contributes to this perspective, further specifying that strategic competence may include communication strategies. Indeed to develop the ability to use verbal and non-verbal strategies to compensate for communication breakdowns due to insufficient competence or performance limitations (Rabab'ah, 2016), target language learners and users (we also add heritage language learners) need to employ numerous strategies proposed in the literature.

Language Learning and Language Use Strategies

The *language learning* versus *language use* strategies controversy is an issue that has been discussed in the field. One example is the inclusion of communication strategies among learning strategies, which are seen by some authors as two quite separate manifestations of language learner behavior (e.g., Griffiths, 2004, 2018). Rubin (1981) included communication strategies under production tricks, but Brown (2000) distinguished between learning strategies and communication strategies, saying that communication is not a learning process. According to Tarone (1980), communication strategies should be viewed as learning strategies since, while communicating, learners are exposed to language input which may result in learning. However, for a strategy to be considered a learning strategy, the basic motivation should be to learn and not to communicate. Tarone (1981) herself acknowledged that it is difficult to determine whether learners may have a motivation to learn and/or communicate. Ellis (1986) divided strategies into those for learning and those for using, including communication

strategies as compensating tools. He acknowledged a possibility that successful use of communication strategies may actually prevent language learning as successful compensation for lack of linguistic knowledge may prevent the need for learning. Mitits' (2015) study of strategies used by monolingual and bilingual learners of a foreign language found just that – less proficient bilingual learners used more compensation strategies than their more successful counterparts.

Oxford (1990) included compensation strategies among the six categories of the *SILL* (*Strategy Inventory for Language Learning*). She justified the inclusion of compensation strategies among learning strategies on the grounds that they "help learners become more fluent in what they already know [and] may lead learners to gain new information about what is appropriate or permissible in the target language" (1990, p.49). Cohen (1996, 2014), however, posits that language learning strategies have an explicit goal of facilitating knowledge in a target language whereas language use strategies aim primarily at employing the language that learners have in their current interlanguage. He divided language use strategies into retrieval strategies (to retrieve the forms when required), rehearsal strategies (for rehearsing target language structures), cover strategies (to create the impression that learners have control over material when they do not), and communication strategies (focusing on conveying meaningful information).

Challenges in Communication/Compensation Strategy Terminology and Classification

Discrepancies in terminologies and classifications of communication strategies have led to different interpretations and conceptualizations of the construct. Canale and Swain (1980) defined communication strategies as the ability to use verbal and nonverbal strategies to avoid communication breakdowns caused by learners' insufficient knowledge of the target language. They emphasized that less proficient students could benefit from learning effective communication strategies, such as *paraphrasing*, *using gestures*, and *asking clarification questions*. In the same year, Tarone (1980) also put forward the idea of communication strategies in additional language acquisition. Canale (1983) extended the concept of communication strategies to not only include strategies to compensate for communication disruptions, but also strategies to enhance communication with interlocutors. Faerch and Kasper (1983, 1984) also proposed a broader definition of communication strategies that focused on the planning and execution of speech production. They categorized communication strategies into two types: *achievement strategies* and *reduction strategies*. Achievement strategies allow learners to work on alternative plans to reach their communication goals using whatever resources are available. Reduction strategies, on the other hand, enable learners to avoid solving communication problems and give up on conveying their original message. Poulisse (1993) provided insights on lexical communication strategies including approximation, word coinage, and foreignizing. Dörnyei and Scott (1997) further developed the concept of communication strategies, classifying them into various categories, comprising stalling or time-gaining strategies, interactional strategies, and linguistic or intralingual strategies.

The challenges in classifying communication strategies are mainly due to their dynamic nature and context-specificity (Poulisse, 1987) but also because they are considered from different perspectives. Firstly, the psycholinguistic view focuses on problem-solving

mechanisms that language learners use to compensate for their deficient lexical knowledge (Dörnyei & Kormos, 1998). For example, Khanji (1996) divided communication strategies into three categories: object-regulation strategies, other-regulation strategies, and self-regulation strategies. Next, the cross-cultural perspective considers the influence of the dominant language on the additional language, including strategies such as language switching and translation (Bialystok, 1990; Tarone, 1981). Finally, the interactional perspective views communication strategies as pragmatic discourse functions that emphasize part of the intended message and focus on the negotiation of meaning between interlocutors (Dörnyei & Scott, 1995, Tarone, 1980). Accordingly, Faerch & Kasper (1983) divided the strategies based on phases of a communicative event.

A multitude of studies have classified communication strategies into *avoidance* or *reduction* strategies and *achievement* or *compensatory* ones (Bialystok, 1990; Dornyei & Scott, 1997; Faerch & Kasper, 1983; Nakatani, 2005; Tarone, 1980,1981). Avoidance strategies lead learners to veer away from unfamiliar topics, avoid solving communication problems, and reduce or abandon the messages they intended to convey, while achievement strategies enable learners to tackle communication problems by implementing an alternative plan.

A need for more clarity and coherence in defining and categorizing communication strategies has been documented in the recent literature as well (Abdesslem,1996; Nakatani, 2006; Rabab'ah & Bulut, 2007). Multiple terminologies have been applied, including *communicative strategies*, *compensation strategies*, and *compensatory strategies*, with some overlap and differences across contexts and authors. Nakatani (2006) proposes the use of the term *oral communication strategies* to specifically refer to strategic behaviors used by learners when facing communication problems during interactional tasks. Mirzaei & Heidari (2012) further divide oral communication strategies into strategies for dealing with speaking and listening problems. The first ones include fluency-oriented strategies, nonverbal strategies, and message abandonment strategies, while the second address issues during listening, such as meaning-negotiation strategies and nonverbal strategies. Rabab'ah (2016) highlights the use of paraphrase, approximation, self-repair, clarification request, literal translation, and appeal for help as common communication strategies among language learners.

In language learning, compensation strategies refer to the set of tactics that learners employ to make up for their deficiencies or gaps in their knowledge or skills. The framework for compensation strategies has been developed and defined by various researchers over the years. Cohen and Aphek (1981) proposed strategies such as *using a synonym or circumlocution*, *using formulaic expressions*, *using a filler* and *appealing for help*. Almost a decade later Oxford (1990) proposed a taxonomy which incorporates direct (including compensation) and indirect strategies. She classifies compensation strategies into two main categories:

- Guessing intelligently in listening and reading: This involves using linguistic and non-linguistic clues to make educated guesses about the meaning of the language. For example, learners might use knowledge about the topic, the situation, or the speakers to make inferences. They might also use knowledge about the language itself, such as knowledge about syntax and morphology, to understand unfamiliar words or structures.
- Overcoming limitations in speaking and writing: This involves using various strategies to continue communicating when learners don't know a word or a

grammatical rule. For example, learners might use a synonym, a description, or a gesture instead of a word they don't know. They might also use a word from their native language and ask for the correct word in the target language.

Oxford (1990) emphasizes that compensation strategies are active, conscious techniques for addressing gaps in linguistic knowledge across multiple language skills (see Margolis, 2001). Oxford (2003) reiterated the importance of compensation strategies in facilitating language acquisition and communication. According to her, by employing these strategies, learners can improve their comprehension and self-expression even if their knowledge of the language is incomplete. Oxford (2011) emphasizes that teachers can help learners become more effective and autonomous by teaching them to use compensation strategies to overcome limitations in their language knowledge.

O'Malley and Chamot (1990) also discuss similar strategies in their work and they group compensation strategies into two categories: (a) production strategies (coining new words, using synonyms, using gestures) and (b) reception strategies (using contextual clues, using knowledge of the world). Schmitt (1997) highlights the importance of compensation strategies in vocabulary acquisition and includes techniques such as *using a L1 word or a general word*, *using gestures* and *describing the concept* to facilitate communication despite vocabulary gaps. Considering the terminological multiplicity, the variety of perspectives which lead to different and sometimes contradictory definitions of communication strategies and the fact that the term *compensation strategies* puts the emphasis on the deficiencies of language users, in this paper, we opt for the general, more descriptive, term *strategic devices* or *resources* for focusing on communicative success and also for highlighting our stance that language users, and especially heritage language speakers, are competent in their own right.

Factors Influencing Strategy Use

The use of communication strategies has been investigated in relation to factors such as the effect of task type and conditions, language proficiency, and cultural backgrounds (Rabab'ah & Bulut, 2007). Language proficiency is a potentially influential factor in the choice of strategies as proficient language learners tend to rely on linguistic approaches, while those with low proficiency adopt a conceptual approach that does not require specific target language linguistic or cultural knowledge (Huang & Van Naerssen, 1987; Paribakht, 1985). However, others argue that less proficient students use more strategies and rely heavily on reduction strategies (Labarca & Khanji, 1986; Liskin-Gasparo, 1996). One such study (Chen, 2009) with Taiwanese language learners found that fluent speakers reportedly applied social-affective, fluency-oriented, negotiation for meaning while speaking, and accuracy-oriented strategies, whereas less fluent speakers utilized message reduction and alteration, and message abandonment strategies. Self-perceived English oral proficiency is another factor showing that a positive self-perception can affect the progress of an individual's learning (Baker & MacIntyre, 2000).

Additionally, attitudes towards strategies and the frequency of their usage have also been studied (Karbalaei & Taji, 2014). A number of studies found that students who often speak English outside the classroom employ more oral communication strategies than those who do not (e.g., Li, 2010). Also, Nakatani (2010) reported that students who frequently speak English outside the classroom usually employ strategies, such as social affective, negotiation for

meaning while speaking, and fluency-oriented strategies. However, Chen (2009) found no significant relationship between the frequency of speaking English outside the classroom and the use of strategies. Nakatani (2010) found that highly motivated students used more oral communication strategies, particularly those related to coping with speaking and listening problems. Conversely, Chen (2009) found no significant relationship between motivation to speak English and the use of such strategies. The inconsistencies in these findings warrant further investigation into the relationship between motivation and the use of strategies.

Overall, it can be said that researchers face difficulties in categorizing strategies into clear-cut taxonomies, as learners' choices are influenced by a range of factors. Despite these challenges, the importance of studying and teaching communication/compensation strategies to facilitate a target language development has constantly been acknowledged.

Heritage Speakers' Characteristics

Heritage language speakers are individuals who grow up exposed to a language at home that differs from the dominant language of their community or the country in which they live (Oxford, 2017; Rothman, 2009). One of the principal characteristics of heritage language speakers is their linguistically functional bilingualism. They often become proficient, to varying degrees, in both their heritage language and the majority language (Kupisch & Rothman, 2018). However, their levels of proficiency in the two languages can vary significantly, influenced by many factors, such as the age of onset of bilingualism and the amount and quality of input in each language (Unsworth et al., 2014) as well as the degree of language maintenance, the level of heritage language proficiency among family members, the educational context, and the sociocultural dynamics of the heritage language community (Linton, 2018). Additionally, individual motivation, attitude, and identity play a crucial role in determining the extent to which heritage speakers invest in maintaining and developing their language skills (Tse, 2001).

Heritage speakers often face the risk of language shift and attrition, especially in second and third generations but also during their life span (Gavriilidou & Mitits, 2019) as they often display unique linguistic profiles, characterized by a complex interplay of transfer effects, language loss, and incomplete acquisition (Montrul, 2016). They may demonstrate superior proficiency in some areas of their heritage language (such as pronunciation and basic vocabulary) while showing weaknesses in others (such as complex syntax and literary vocabulary). Research suggests that oral proficiency may range from near-native fluency to limited competence (Montrul, 2016) and high levels of receptive skills due to continued exposure to spoken language within their families or communities are often exhibited (Polinsky & Kagan, 2007). However, listening skill alone does not guarantee overall proficiency or the ability to engage in complex language tasks. Swender et al. (2014) remind us that it would be wrong to assume that heritage language learners are capable of accomplishing varied linguistic tasks on account of their native-like pronunciation and good listening and speaking skills since heritage language speakers range from those who understand but do not speak the language, or those who can perform basic linguistic tasks, to those 'who can use the language accurately and appropriately across a range of sophisticated professional and personal tasks and contexts' (Swender et al., 2014, p.424).

These intricate linguistic dynamics experienced by heritage language speakers and learners necessitate the development and utilization of communication/compensation strategies that facilitate effective interaction and language maintenance. In other words, they employ strategic devices or resources for focusing on communicative success. Research has documented the following strategies as characteristic of heritage speakers:

Code-switching - the deliberate and fluid alternation between two or more languages within a single conversation or interaction, frequently employed to express cultural identity, establish rapport, convey specific meanings, or accommodate interlocutors with different language backgrounds (Gumperz, 1982).

Borrowing - integration of lexical items or grammatical structures from one language into another. Heritage speakers often draw upon words, phrases, or idiomatic expressions from their heritage language to enrich their communication in the dominant language (Poplack, 1980).

Repair strategies - address communication breakdowns or misunderstandings and involve seeking clarification, repeating or rephrasing information, or using gestures to ensure mutual comprehension (Gass & Varonis, 1991).

Translation - bridges the linguistic gap between languages and may occur concurrently during conversation or as a retrospective process, where heritage speakers mentally translate information from their dominant language into their heritage language and vice versa (Grosjean, 1998).

Aim of the Current Study

Based on the critical review of previous competing meta-taxonomies (Dörnyei & Scott 1995), taxonomies of communication (Færch & Kasper, 1983; Tarone, 1977), and compensation strategies in language learning (Oxford, 1990), as well as the particular speakers' characteristics, the current study aimed at offering a bottom-up investigation of the strategic devices for overcoming gaps during narration and conversation used by heritage speakers. More precisely, the study sought to:

a) detect oral strategic devices that are used by heritage speakers
b) investigate the possible differences in strategy use between heritage speakers in different language environments
c) examine how strategy use differs according to the task type (narration and conversation).

Method

In order to gain a more comprehensive understanding of strategies used by the particular language speakers, a mixed method, including both quantitative and qualitative data analysis, is employed. This triangulation facilitates validation of data through cross verification from more than two approaches.

Data were drawn from the Greek Heritage Language Corpus (GHLC) (Gavriilidou et al., 2019), which is a spoken corpus including data from the 1st, 2nd and 3rd generation Greek heritage speakers living in Chicago, Moscow and St. Petersburg. It contains 144,987 tokens and approximately 90 hours of recordings. The Moscow sub-corpus consists of 23,380 tokens, the Saint Petersburg sub-corpus consists of 29,910 tokens, and the Chicago sub-corpus includes 91,697 tokens.

The present study is based on the transcriptions of the elicited narratives and conversations of 32 informants from Chicago (11 males and 21 females), and 38 informants from Russia (16 from Moscow and 22 from St. Petersburg) of whom 20 were males and 18 were females. Their age range and the educational level are presented in Table 1.

Table 1

Age Range and Educational Level of the Participants

USA								
Age					Ed. level			
< 12	12-17	29-40	41-55	55+	Prim.	Secon.	Univ.	Postg.
4	8	6	13	1	6	8	11	7
12.5%	25%	18.7%	40.6%	3.1%	18.7%	25%	34.4%	21.8%

RUSSIA									
Age						Ed. level			
< 12	18-22	23-28	29-40	41-55	55+	Prim.	Secon.	Univ.	Postg.
3	4	5	10	11	5	4	5	26	3
7.8%	10.5%	13.1%	26.3%	28.9%	13.1%	10.5%	13.1%	68.4%	7.8%

In the narrations, the informants were asked to offer a running commentary of the *Pear Story* (Chafe, 1980). The full color film is about six minutes long, with background sounds but no speech. In the conversations, the informants were prompted by the researchers to talk about Greek traditions, holidays, food, their feelings, or stories they had heard from their families.

The narrations and conversations are transcribed verbatim in the Greek Heritage Language Corpus (GHLC) using the standard orthographic transcription. The adopted transcription system (Pavlidou, 2012) included phenomena relevant to spoken language, such as hesitation, length of pauses, laughter, self-correction which may indicate when a speaker encounters trouble. Transcription conventions are detailed in the Appendix, and the full transcriptions can be accessed upon request from the GHLC webpage. The Conversational Analysis (CA) transcription technique was also adopted, with utterance as a basic unit. Some utterances were translated only for the purpose of reporting them in this article. The Conversational Analysis allowed us to adopt a bottom-up approach without recourse to a priori theories or models in analyzing Greek heritage speakers' actions and use of strategic resources in their attempt to tell a story, participate in a conversation and maintain communication. Finally, a frequency form was designed to classify and count all strategic devices used. This procedure was completed manually. Interrater reliability of coding was evaluated for all 70 transcriptions. Only identically coded strategic devices by two raters were considered an agreement and were included in the frequency form.

Results and Discussion

The analysis identified 14 strategic devices used by Greek heritage speakers in narration and conversation. These are presented in Table 2. They belong to either production or reduction strategy categories and aim at ensuring successful communication while speaking and listening. We also found (see tables 3 and 4) that all three communities of heritage speakers used the same strategies, with the exception of loanblends (blending the dominant and heritage languages) (Gavriilidou & Mitits, 2020), which were used only by heritage speakers from Chicago. Loanblends are words that combine bound morphemes from two languages as in

fénsi ‘fence’, where there is a combination of the English stem fence and the Greek inflectional affix -ι. Seen from a functional perspective, loanblends like the ones found in the transcriptions are used to fill vocabulary gaps of heritage speakers who find it easier to use stems from the majority language, in which they are generally more proficient, and affixes from their heritage language, when they produce speech in the heritage language. With respect to strategic devices found in the oral productions of heritage speakers in previous studies, our results also show code-switching (language switch), borrowing (loanblends, word coinage), and repair strategies (circumlocution, autocorrection, asking for clarification, etc.).

Table 2

Oral Strategic Devices Used by Greek Heritage Speakers in the Study

Oral Strategic Devices	Description
Circumlocution	Describing or defining a concept instead of saying the specific words.
Synonym	Using words or expressions that have the same or nearly the same meaning with the word one doesn’t know.
Word coinage	Creating a new word when one is not able to retrieve the accurate lexical item.
Autocorrection	Recognizing and correcting one’s own mistakes during conversation.
Language switch	Inserting a word from their dominant language into a sentence, and hope that their interlocutor will understand.
Loanblends	Using stems from the dominant language and affixes from the HL
Asking for clarification	The strategy of asking an interlocutor for the correct word or other help.
Guessing	Continue the conversation even though one is not sure what the interlocutor is saying.
Reducing information	Giving only the essential info because one does not know how to say what one exactly wants.
Avoidance- Selecting the topic	Taking initiative in order to talk about topics one knows how. Avoiding talking about topics for which one lacks the necessary vocabulary or other language skills in the heritage language.
Avoidance- breakdown	Starting to try to talk about a topic, but abandoning the effort in mid-utterance after discovering that one lacks the language resources needed to complete the message.
Non-verbal strategies	This can refer to strategies such as the use of gesture and mime to augment or replace verbal communication. Pause, hesitation, taking a breath…
Fillers	Using words like “uh”, “um”, “you know” to gain time to think.
Backchanneling	Showing that the listener understands, agrees, is surprised by, is angered by, and more by what the speaker is saying.

Our investigation also revealed that heritage speakers from Chicago used overall more strategies (Mean 8.68, SD 2.17) than those from Moscow (Mean 7.26, SD 1.86) and St. Petersburg (Mean 6.09, SD 1.77). Previous studies (Gavriilidou and Mitits, 2019, 2021) involving the same group of informants delineated their sociolinguistic profiles and found the Greek heritage speakers in the U.S. rate their proficiency higher than their counterparts in Russia, reflecting more frequent language use, formal instruction, and exposure to both written and spoken language. Moreover, more limited contact with spoken language in the Russian context appeared to lead to lower self-rated speaking ability. Identification with Greek culture as well as ethnic attachment and practice of Greek traditions was also a more prominent characteristic of the U.S. informants.

Bearing all this in mind, the factors influencing the frequency of strategy use appear to be related to the generally higher Greek proficiency level of the heritage speakers from Chicago compared to those from Russia. Their oral productions on both tasks were lengthier and richer

as well (they contained far more tokens – 63.2% of the total number). It becomes empirically evident that the extent of heritage speakers' oral production is linked to the number and frequency of the strategies they employ. Secondly, they reported higher motivation to maintain Greek and had more opportunities to speak it on a daily basis, which are further factors that positively affect the employment of oral communication strategies (see Li, 2010; Nakatani, 2010).

The individual strategy count in the Chicago and Moscow sample ranged from 5 to 12 per person, while in St. Petersburg the range was from 2 to 9. Furthermore, our results (see Table 3) suggest that all three samples used slightly more strategies in the narration (54.45% of the total number of strategies used), which was in a form of an eventcast, than in the conversation (45.55% of the total number of strategies used), where they were initially prompted by the researchers and then engaged in interaction with them. It seems that the greater opportunity of collaboration between the interlocutors which facilitated communication during conversation may account for the lower number of compensation strategies in that type of oral communication. Percentages in table 3 were computed by the ratio of the Absolute Value (AV) of separate strategic devices by the total number of strategies (N=674) multiplied by 100.

Table 3

Absolute values (AV) and Percentage of Strategic Devices Used in Total by the Sample both in Narration and Conversation

Strategic devices	Narration		Conversation		TOTAL	
	AV	Freq%	AV	Freq%	AV	Freq%
Circumlocution	9	1.34	9	1.34	18	2.68
Synonym	17	2.52	6	0.89	23	3.41
Word coinage	23	3.41	18	2.67	41	6.08
Guessing	35	5.19	26	3.86	61	9.05
Language switch	39	5.79	38	5.64	77	11.43
Avoidance-Selecting the topic	21	3.12	3	0.45	24	3.57
Avoidance-break down	10	1.48	26	3.86	36	5.34
Asking for clarification	20	2.97	19	2.82	39	5.79
Non-verbal strategies	51	7.57	20	2.97	71	10.54
Fillers	57	8.46	56	8.31	113	16.77
Loanblends	17	2.52	5	0.74	22	3.26
Autocorrection	39	5.79	35	5.19	74	10.98
Reducing information	27	4.01	21	3.08	48	7.09
Backchanneling	2	0.30	25	3.71	27	4.01
TOTAL	367	54.45	307	45.55	674	100

Thirdly, we examined how strategy use differentiates according to the task type (narration and conversation). While all the three groups of speakers used the same overall strategies (see Tables 2, 4 and 5), Figure 1 reveals that their strategy use differentiates according to the genre. Synonym use, topic selection, nonverbal strategies and loanblends are mainly used in narration (see Table 4) while backchanneling is mainly used in conversation (see Table 5). Fillers, code switching or autocorrection, on the other hand, are popular both in narration and conversation. A general observation is that the difference in communicative aims generates a variety in strategy use. Thus, during narration the speakers struggle to keep communication alive while

they narrate, which is why they mainly use what Dörnyei and Scott (1997) define as direct strategies: they use synonyms, loanblends or avoidance and nonverbal strategies that "provide an alternative, manageable, and self-contained means of getting the (sometimes modified) meaning across" (Dörnyei & Scott, 1997, p.198). On the other hand, in conversation they prefer more socially interactional strategies, like backchanneling to react to interlocutors' speech and thus "carry out trouble-shooting exchanges cooperatively" so that "mutual understanding is a function of the successful execution of both pair parts of the exchange" (Dörnyei & Scott, 1997, p.199). Percentages in tables 4 and 5 were computed by the ratio of separate strategic devices by the total number of strategies for each subsample multiplied by 100.

Table 4

Absolute Values and Percentage by Type of Strategic Devices Used by the Three Subgroups of Greek Heritage Speakers in Narration

Strategic devices in narration	Chicago		Moscow		St. Petersburg		TOTAL	
	AV	Freq%	AV	Freq%	AV	Freq%	AV	Freq%
Circumlocution	5	1.34	3	2.17	1	0.61	9	1.34
Synonym	10	2.68	3	2.17	4	2.45	17	2.52
Word coinage	14	3.75	6	4.35	3	1.84	23	3.41
Autocorrection	22	5.90	7	5.07	10	6.13	39	5.79
Language switch	20	5.36	7	5.07	12	7.36	39	5.79
Loanblends	14	3.75	2	1.45	1	0.61	17	2.52
Asking for clarification	14	3.75	2	1.45	4	2.45	20	2.97
Guessing	21	5.63	10	7.25	4	2.45	35	5.19
Reducing information	7	1.88	7	5.07	13	7.98	27	4.01
Avoidance-Selecting the topic	11	2.95	6	4.35	4	2.45	21	3.12
Avoidance-breakdown	7	1.88	3	2.17	0	0.00	10	1.48
Non-verbal strategies	19	5.09	14	10.14	18	11.04	51	7.57
Fillers	31	8.31	10	7.25	16	9.82	57	8.46
Backchanneling	1	0.27	1	0.72	0	0.00	2	0.30
TOTAL	196	52.55	81	58.70	90	55.21	367	54.45

Finally, other strategies like fillers, code switching or autocorrection are equally functional both in narration and in conversation, since they help speakers gain time to think, ascribe their possible linguistic incompetence to their interlocutor, reformulate and thus keep the communication channel open.

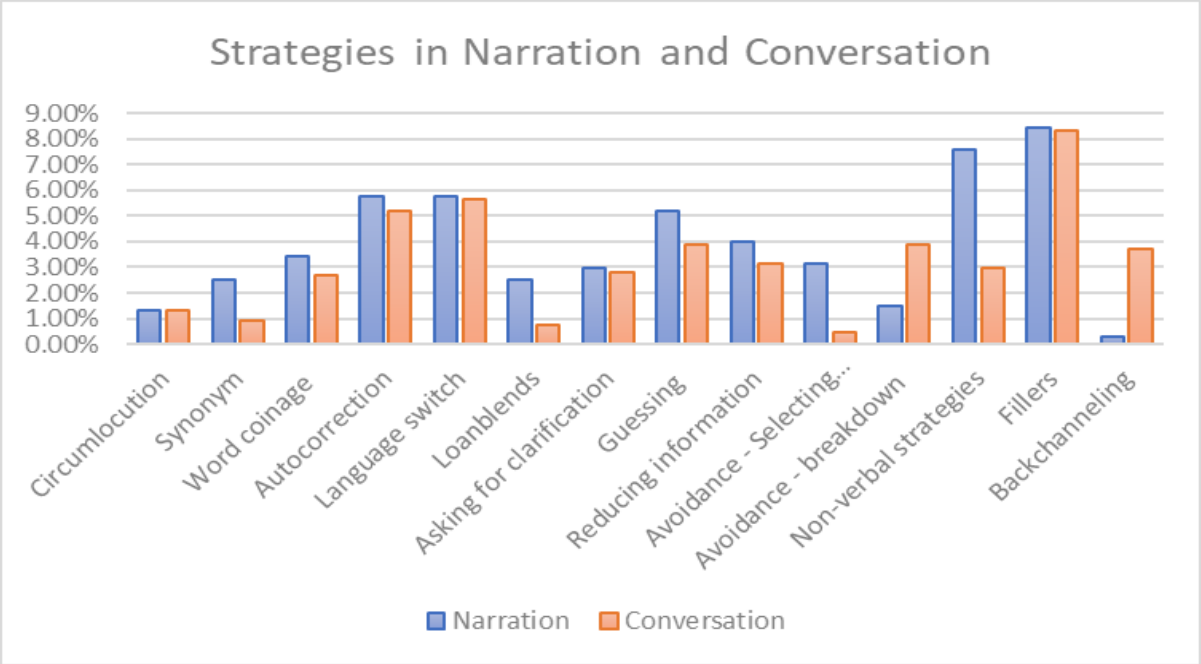
Table 5

Absolute Values and Percentage of Strategic Devices Used by the Three Subgroups of Greek Heritage Speakers in Conversation

Strategic devices in conversation	Chicago		Moscow		St. Petersburg		TOTAL	
	AV	Freq%	AV	Freq%	AV	Freq%	AV	Freq%
Circumlocution	5	1.34	3	2.17	1	0.61	9	1.34
Synonym	3	0.80	0	0.00	3	1.84	6	0.89
Word coinage	10	2.68	3	2.17	5	3.07	18	2.67
Autocorrection	20	5.36	7	5.07	8	4.91	35	5.19
Language switch	24	6.43	6	4.35	8	4.91	38	5.64
Loanblends	5	1.34	0	0.00	0	0.00	5	0.74
Asking for clarification	9	2.41	2	1.45	8	4.91	19	2.82
Guessing	15	4.02	4	2.90	7	4.29	26	3.86
Reducing information	16	4.29	3	2.17	2	1.23	21	3.12
Avoidance-Selecting the topic	2	0.54	1	0.72	0	0.00	3	0.45
Avoidance-breakdown	17	4.56	6	4.35	3	1.84	26	3.86
Non-verbal strategies	12	3.22	4	2.90	4	2.45	20	2.97
Fillers	27	7.24	13	9.42	16	9.82	56	8.31
Backchanneling	12	3.22	5	3.62	8	4.91	25	3.71
TOTAL	177	47.45	57	41.30	73	44.79	307	45.55

Figure 1

Overall Strategy Use by Greek Heritage Speakers in Narration and Conversation



The most frequently used strategy by all three groups, both in narration and in conversation, is fillers, used by the speakers to plan ahead of time for a new utterance (for the universality of fillers see also Bada, 2010). For Dörnyei and Scott (1997, p.198), fillers are not problem-solving devices like the majority of communication strategies but rather "facilitate the

conveyance of meaning indirectly by creating the conditions for achieving mutual understanding". That is why they call this type of strategy *indirect*.

To show how strategies are used in the speech of Greek heritage speakers, we focus on seven extracts from the GHLC to illustrate the different types of strategies identified.

In extract 1, the informant describes the scene from the 'Pear Story' where the three boys, playing with a ping-pong toy, return the hat to the boy on the bicycle. In line 68 the informant declares that she does not remember the name of the toy and in line 69 uses a paraphrase with a description of the ping-pong racket. However, in line 70 she states that she does not know the name of the toy. This excerpt provides a clear example of how a strategy like circumlocution may be used not only in compensation for gaps in a speaker's lexical or grammatical proficiency but also in case of lack of knowledge (see also Burch, 2014) meaning that we need to be very cautious when talking about compensation and be specific about what is compensated for in different circumstances, which is usually obscured in quantitative studies.

EXTRACT 1 (Informant 1003, Narration), circumlocution
67 and the little thief now leave the one child: has a toy:
68 I don't remember how this ↑toy is called
69 one: like the tennis racket, with: the ball: (ΤΣΚ)
70 ah: ah connected to the toy this I don't know how this↑ toy is called

EXTRACT 2 (Informant 1008, Narration), fillers, code switching, avoidance: breakdown, asking for clarification
15 E: [00.50] Hm. And what is he doing now?
16 Σ: [00.55] ah: he throws them in and empties them out of the apron where he picked them up.
17 E: [00.59] Hm. What else is he wearing?
18 Σ: [01.00-01.13] he is wearing the/his face seems to be.
19 a:h he is wearing something, like a mask [In English], I don't know, it is like a scarf scarf scarf
20 E: Scarf scarf
21 Σ: [01.14] scarf, yeah hm there it is, he just took off the scarf ah:
22 E: [01.19] What is he doing with the scarf?
23 Σ: [01.20] ah: is he wiping the pear to eat it?
24 E: Hm
25 Σ: @@
26 E: [01.26] What do we hear?
27 Σ: [01.28] there's another shepherd in the back, who is calling him, ah: maybe [In English] is, what is it?
28 ah: is it a donkey?
29 E: No.
30 Σ: [01.39] No it is not. It is a goat [In English], oh yeah yeah it is a ah: how do we say goat [In English]? goat.
31 E: Well done!

In line 16, the informant answers the researcher's question and then in line 18 she starts describing the face of the farmer, but she abandons the effort in the mid-utterance because she discovers that she lacks the language resources to do so and starts talking about what the farmer wears. Then in line 19 she codeswitches to compensate for a missing word (mask) and in the same line she also makes use of a synonym of the needed word. The repetition of the word 'scarf' in line 19 as well as the repetition of the definite article 'the' previously in line 18 give her time to think, and at the same time they do not carry a heavy cognitive load. Bada (2010) compares such repeated elements to fillers like the pauses in lines 16, 19, 21, 23, 27 which display trouble or expressions like 'I don't know' (line 19) and 'oh yeah yeah; (line 30). Fillers in Extract 2 help the informant gain time to think (Dörnyei & Scott, 1997), find the appropriate lexical item or grammatical form, especially in Greek which is a language with rich inflectional and derivational morphology, and thus prevent breakdowns and keep the communication channel open. In line 30 the informant appeals for help by asking what the Greek word for *goat* is and finally she replaces *goat* with the Greek word *katsika* and with this replacement repair she abandons code switching.

In line 38, the informant starts answering the researcher's question about an event that upset her and begins with the use of a filler and then in line 39 continues with a short pause before coining the word *γazóstra* to compensate for the missing word *raptomixani* 'sewing machine'. When the researcher offers the correct word, she agrees verbally (backchanneling).

EXTRACT 3 (Informant 2015, Conversation), Word coinage, fillers, backchanneling
36 Ah, do you remember an incident that happened to you that made you
37 really angry? How did you feel?
38 Σ: [14.39] ah @ yeah
39 ah: (.) once ↑I had (.) a *γazóstra* (c word coined by the verb *γazóno* 'sew' and the suffix *-stra* instead of the word *raptomixani* 'sewing machine') and I put it on a little table
40 (and) that's where I did my work
41 E: A sewing machine, you mean?
42 Σ: [14.53] yeah

The loanblends in extract 4 are used by the informant to replace the native word *kalaθi* for the sake of facility. Such loanwords are perceived as indexes of otherness, indicating a Greek American identity. The informant was not aware that this word does not exist in Greek. Loanblends are often associated, especially among second- and third-generation speakers, with low socioeconomic status and low level of education.

EXTRACT 4 (Informant 1027, Narration), loanblend
39 Σ: [08.39-09.04] slowly ↑he approaches
40 he sees the ↑pears
41 in the big *basketes*
42 he gets off his bike slowly ↑ he looks up to see whether
43 man watches him and notices him
44 he goes to pick a pear ↑slowly
45 he sees that he has not noticed him

46 and he says let me take the whole *basketa*↑better

In line 24, the informant requests clarification by asking the researcher to verify if he is using the correct word. Two types of requests for clarification were found in the data we analyzed. In some cases, like the one in extract 5, the informants ask for verification whether a word they use in Greek is correct. In other cases, though, (e.g., in extracts 2 and 6) the informant uses code switching and asks how an English word is called in Greek.

EXTRACT 5 (1017, Narration), asking for clarification, repetition, fillers
19 E: [07.23] What did he do with his scarf?
20 Σ: [07.26-08.24] ah: I didn't ↑notice
21 #he cleaned the: pear, I suppose#?
22 and again he climbs the tree to: to to get a couple more
23 and another one now with: I think with a goat and: he's passing in front of them (0.12)
24 and: ah: the: ↑farmer, how do we say farmer?
25 is on top of the ↑tree
26 now a ↑child a: little child passing by: bicycle
27 and: he sees where the man is: and slowly passes by (0.5)

EXTRACT 6 (Informant 1017, Narration), asking for clarification
1 E: I'm setting it from the beginning. Good. So let's switch now to Greek.
2 Σ: [06.27-07.05] ok we see: some (ΤΣΚ) ah:
3 how do we say ah: farmer I don't know how to say [In English] ah:
4 is-/ is is is a tree with: with pears and he picks them up and puts them in
5 a: like a: what is it called?
6 basket
7 and he has and: he has a lot (of pears) and puts them all in there↑in (the baskets) and takes them out of his ah:
8 of his apron. (0.6)

EXTRACT 7 (Informant 1032, Narration), auto-correction, code switching, fillers, loanblends
28 Σ: [11.13-12.21] @ the man climbs: to: collect more @pears
29 the other man passes by with the: @goat
30 they see the ↑basketes but they keep going
32 ↑they keep going on: ah:
33 at the path on his path [In English]
34 on the way they are ↑going
35 ah: we see again: hhh farmer [In English] why can't I think of it?
36 ah: we see a child coming with his: with her-/ (0.2)
37 hm with his bicycle↑
38 he is coming: to the man who picks the pears (0.2)
39 the: bicycle is ↑red
40 the child is wearing a pink ↑ shirt

ah brown ↑trousers
41 he stops in front of the three *basketa* three *basketes* with pears↑
42 he leaves the bicycle: he goes to pick up a:
43 and he thinks he should get
44 Σ: [12.22] the whole: bask-/ it's not basket [In English], it's not *basketa*
45 E2: Ok don't worry. [In English]
46 Σ: [12.32-13.05] @ he rides again his bicycle ↑ (0.2)
47 ah: he slowly gets up in order not to: ↑ fall, he puts the *basketa* in front of:
48 the ↑bicycle
49 and tries to leave without being seen: ah: (.) by the man who picks pears.

The informant makes extensive use of fillers (mainly pauses) (e.g., in lines 28, 29, 32, 36, 36, 38, 39, 42, 47, 49) while he also uses code switching (lines 33, 35, 44). What is interesting is that he uses the loanblend *basketa* (lines 30 and 41) 3 times, and then in line 44 he is in front of an own-performance problem: he acknowledges that *basketa* is not the appropriate word while the researcher motivates him in English to continue the narration and not to stop talking. So does he and then in line 47 he uses once more the loanblend *basketa*. Auto-correction is in general associated with various types of self-repair or self-rephrasing. In extract 7, the informant self-repairs either to ensure the article-noun accordance (e.g. lines 35 and 36 where he first uses the correct definite article in neuter for the word poδilato 'bicycle', then changes in the feminine, apparently confused by the loanbled *bisikleta* 'bicycle' which is feminine and finally opts for the correct grammatical gender) or adjective-noun accordance for gender (as in line 41 where he first provides an erroneous neuter for of the loanblend *basketa* and then self-repairs his speech providing the correct form of adjective and noun).

These 7 extracts clearly show a number of strategies used by heritage speakers either to adjust the message to the resources (see for instance extract 2 where we find reducing information or avoidance, change of topic) or to try to compensate for any linguistic needs by conveying the intended message using any available strategies (see extracts 1, 3, 4 where we find circumlocution, reformulation, loanblends, etc.). Tarone (1977) refers to the first category as *avoidance strategies*, while Corder (1981) labels them *message adjustment strategies*. The second type of strategies are called *achievement strategies* (Færch and Kasper, 1983) and our data show that this type of strategy is more frequent in the speech of Greek heritage speakers, pointing towards another unique feature of heritage speakers' linguistic repertoire – that of strategy selection for focusing on communicative success also reported in previous studies.

Implications

As for the implications of our findings on heritage language instruction, it becomes evident that understanding oral strategies that students employ helps teachers understand their strategic competence, and enables them to choose appropriate strategies for pedagogical purposes. While some researchers have questioned the utility of oral strategy training (e.g., Bialystok, 1990; Kellerman, 1991), others (e.g., Dörnyei & Scott, 1995; Griffiths, 2018; Oxford, 2017; Willems, 1987) have posited that it is crucial to train learners explicitly in communication/compensation strategy use, as classroom settings may not always allow for natural development of strategic competence.

Various studies have shown contrasting findings on the effectiveness of strategy instruction (e.g., Kellerman, 1991; Labarca & Khanji, 1986; Nakatani, 2005). This inconsistency extends to research on the volume of strategy use by target language learners at different proficiency levels (e.g., Chen, 2009; Huang & van Naerssen, 1987; Liskin-Gasparro, 1996). With respect to heritage language learners, the situation is even more complex. They generally have opportunities to use their heritage language in the community and the family, which enriches their strategic repertoires and facilitates language production, but not all heritage language environments are language conductive, meaning that learners need to be supported in acquiring the necessary devices. The curricula for heritage languages should provide explicit oral strategy instruction models that teachers can apply with the particular learners in order to improve their speaking skill.

Conclusion

The purpose of this paper was to present a bottom-up investigation of the strategic linguistic devices used by heritage speakers. We offered a list and descriptions of strategies and showed how they differentiate according to the genre. The analysis revealed that heritage speakers employed various resources, which, in spite of their linguistic difficulties, made them capable of achieving their interactional goals. Thus, the originality of the paper lies in the fact that it allows us to shift the focus from the linguistic deficit to successful communication and thus view the strategies like the ones investigated here not as compensatory means for problem-solving but as empowering resources that guarantee achievement in interactions. Moreover, the bottom-up approach highlighted the complexity of strategy use in context, which a priori taxonomical categorizations would have obscured.

The fact that our sample made extensive use of some types of strategies while others were used marginally allows us to raise the question of whether some strategies are more universal than others or whether there are strategies which are more frequent than others. It would then be challenging to draw, in future, on crosslinguistic data (e.g., large oral corpora of language learner's productions in context) in order to elaborate on strategies that could predict the possible universality of strategy use. It would also be challenging for future research to investigate heritage speakers' strategy use in languages other than Greek.

Finally, going back to a most crucial question the pioneer, Rebecca Oxford, asked in 1990, that of *what every teacher should know*, we believe that our contribution is the identification of key strategies employed by heritage speakers for effective communication, and the evident link between the extent of their oral productions and the number of strategies they use, which inevitably bear implications for teaching and assessment practices of heritage language learners and can help inform their educational needs. Oxford's compensation strategies, also recognized as learning strategies that facilitate language acquisition and communication, should become an integral part of heritage language teachers' repertoires in order to help learners become more effective and autonomous.

ORCID

https://orcid.org/0000-0002-5975-6852

https://orcid.org/0000-0001-7348-5967

https://orcid.org/0009-0008-4443-8211

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Ethics Declarations

Competing Interests

No, there are no conflicting interests.

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Appendix 1

Transcription Symbols

=	Fast, immediate continuation with a new turn or segment
(0.0)	Pause duration in seconds and tenths of seconds
(.)	Micro pause, estimated, up to 0.1 sec
word	A raise in volume or emphasis
:	Lengthening
::	Lengthening, by about 0.8-1.0 sec
-	A cut-off or interaption
↑	Pitch upstep
↓	Pitch downstep
°word°	Syllables or words quiterer than surrounding speech by the same speaker
><	The talk between the symbols is rushed
<>	The talk between the symbols is compressed
·hhh	Audible inhalation
hhh	Audible exhalation
(( ))	Analyst comment
<x>	Inaudible word
(word)	A likely possibility of what was said
/	Self-correction/ Self-initiated
//	Other corection/ Other-initiated
?	Rising intonation
(ΤΣΚ)	Alveolar click
@	Laughter
@word@	Laughter during word
# word #	Uncertain talk
[…]	A strip of talk that has been omitted
(O)	Replace a name or a surname to preserve anonymity