GENDER DIFFERENCES IN THE USE OF GRAMMAR LEARNING STRATEGIES AMONG ADULT LEARNERS: INSIGHTS FROM A GERMAN L3 CONTEXT

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Abstract: The aim of this research is to explore the grammar learning strategies (GLS) employed by adult learners of German, whose first language (L1) is Croatian and second language (L2) is English. The study specifically investigates the most and least frequently used GLS, as well as gender-based differences in their application. The Grammar Learning Strategies Questionnaire (Božinović, 2012) was used to assess participants' strategy use. The results have shown that learners employed GLS at a moderate frequency when studying German as their L3. Among the various strategies, grammar self-discovery and active GLS were the most frequently used, whereas visual and social strategies were the least utilized. Statistically significant gender differences were observed: female learners more frequently applied grammar memory strategies and visual GLS than their male counterparts. Furthermore, the results suggest that foreign language learners simultaneously employ and adapt a combination of different GLS, indicating the potential for strategic transfer in new language circumstances. By orchestrating multiple strategies simultaneously, learners can enhance their grammatical competence and overall language proficiency. The study highlights the importance of understanding individual differences, particularly gender-based preferences, in developing more effective and personalized language teaching strategies.

Keywords: grammar learning strategies, strategy orchestration, metacognitive strategies, gender differences, grammar learning strategies questionnaire

1. Introduction

Language learning strategies have been the subject of interest in the scientific research discipline studying the process of second language acquisition for several decades. Research on foreign language strategies began back in the nineteen-seventies (Rubin 1975; Savignon 1972; Stern

1975), while during the eighties and nineties, learning strategies posed one of the most intriguing areas of study in foreign language learning (MacIntyre 1994). These studies have shown that foreign language learners employ a wide range of strategies that help them to take greater control over their own learning process (Oxford & Nyikos 1989; O'Malley & Chamot 1990; Gardner & MacIntyre 1993).

A significant contribution to the study of learning strategies was made by Oxford (1990), who states that learning strategies are specific actions, behaviors, steps, or techniques which learners use to make language learning easier, more enjoyable, more self-directed, more efficient, and more transferable to new situations. Oxford (1990) points out that strategies facilitate the internalization, storage, invocation, or use of a new language, and states that strategies are mechanisms for self-directed action, which are indispensable for developing communicative language competence. The use of language learning strategies varies among learners due to individual differences such as gender, motivation, proficiency level, and learning style (Oxford 1990; Ellis 1995). Research suggests that gender differences can influence the selection and effectiveness of these strategies, thereby impacting language acquisition (Green & Oxford 1995; Sunderland 2015). This study specifically examines the use of GLS, focusing on how they relate to gender, since such strategies are a key factor in the process of foreign language acquisition.

2. The notion of learning strategies

Numerous researchers have attempted to define the concept of learning strategies, recognizing their significance in the learning process. However, despite extensive studies in this area, there is no universally accepted term or definition. Different scholars have approached the concept from various perspectives, leading to a range of interpretations and definitions that emphasize different aspects, such as cognitive processes, metacognitive awareness, or learner autonomy. This lack of consensus reflects the complexity and multidimensional nature of learning strategies, making it challenging to establish a single, standardized definition. Ellis (1995: 295) states that strategies are related to some kind of mental activity or behavior that can occur in a particular phase of the learning and communication process. Cohen (1998) highlights that learners consciously select strategies in order to enhance L2 learning through storage, recall, and application of information about the language. O'Malley and Chamot (1990) view

strategies as special ways of information processing that can enhance comprehension, learning, and storing of information more effective. In this framework, language learning strategies are complex cognitive skills that can be acquired and taught. Some definitions are very general, while others are quite specific. Learning strategies can be understood as mental processes over which students have conscious control, being able to choose them when performing tasks (O'Malley & Chamot 1990; Dörney 2005; Oxford 2017). As active participants in the learning process, students employ different mental strategies, either consciously or unconsciously to organize their language system and improve their competence in the target language. Strategies can be declarative and conscious at the beginning of their application, and they subconsciously transform into automatized, unconscious behaviors. Alternatively, learners may also employ strategies intuitively, without prior explicit instruction or conscious learning. Strategies cannot be characterized as either good or bad but rather as potentially more or less useful depending on the context (Cohen 1998). They are resources that learners can use when solving language learning tasks. The learners employ strategies intentionally with the goal of making learning more effective. They may influence their motivational and affective states or the way they select, acquire, organize, or integrate new knowledge (Weinstein & Mayer 1986). One important feature of learning strategies is that they contribute to the development of communicative language competence, which is crucial for acquiring a foreign language. Grammatical competence, as an integral part of communicative competence, is understood as the ability to use a language's grammatical resources correctly (CEFR, 2020). The use of learning strategies, especially those focused on grammatical structures, helps learners develop this competence and improve their effectiveness in communication.

The process of selecting and combining individual strategies to complete a language task is known as 'orchestrating strategy use' (Anderson 1991). Griffiths (2018) describes strategy orchestration as a complex process in which learners employ multiple strategies in harmony with each other. She highlights that this ability is highly individual and content-dependent, influenced by factors such as proficiency level, autonomy, age, motivation, and learning goals. Anderson (2008) identifies strategy orchestration as one of the five primary components of metacognition, while Oxford (2017: 155) introduces the concept of "metastrategic regulation" in self-regulated learning, which includes "orchestrating strategy use" as one of its

components. She emphasizes that effective strategy use requires learners to combine and integrate strategies into well-structured clusters tailored to their specific needs and learning contexts. Key aspects of strategy orchestration include (1) flexible strategy use – learners adapt strategies according to the situation rather than relying on a single fixed approach, (2) metacognitive awareness – successful learners are aware of their own cognitive processes and can consciously select the most effective strategies, (3) combination of strategies – instead of using isolated strategies, learners combine multiple approaches (e.g. memory techniques, visualization, and active practice), (4) adaptation to context – learners modify their strategies based on different learning environments, linguistic challenges, or newly acquired information, (5) efficiency in learning – by orchestrating strategies effectively, learners enhance their learning process and achieve better results. Instead of relying on a single strategy, learners dynamically adjust and combine different strategies based on the task, content and individual learning preferences. Finally, strategy orchestration may contribute more to successful language learning than the linear or frequent use of individual strategies (Macaro 2006; Vandergrift 2003). By mastering the ability to orchestrate strategies effectively, learners become more autonomous, adaptable, and strategic in their approach to language acquisition, leading to long-term success.

3. What are grammar learning strategies?

Grammar learning strategies are a specialized subgroup of general learning strategies that are crucial in the process of acquiring a foreign language. Given the essential role of grammar in all language skills and its function in making language work as a system, GLS has become an important area of study in second language acquisition. However, despite its significance, research on GLS has been relatively limited (Anderson 2005; Ellis 2006).

Over the past decade, there has been an increasing focus on the systematic investigation of specific learning strategies, including those related to grammar (Tilfarlioğlu & Yalçin 2005; Kemp 2007; Pawlak 2009). Oxford, Rang Lee, and Park (2007: 117) define GLS as deliberate actions or behaviors that learners consciously use to make language learning more successful, self-directed, and enjoyable. Similarly, Cohen and Pinilla-Herrera (2009: 64) describe GLS as deliberate thoughts and actions students consciously employed for learning and getting better control over the use of grammar structures. Their definition builds on

traditional GLS approaches, which emphasize the conscious repetition of grammatical structures, imitation of language patterns, and memorization, highlighting the learner's active role in developing greater control over grammar use. These authors emphasized that the use of appropriate GLS contributes to more effective learning. It has been argued that certain GLS may be regarded as "universal" strategies, whose transfer from one language to another can be assumed and expected (Oxford, 1990; O'Malley & Chamot, 1990; Cohen, 1998; Wenden, 1991; Pavičić Takač, 2008), while others appear to be grammar-specific, shaped by the complexity and distinctive features of a given foreign language.

Griffiths (2008) notes that successful language learners actively use GLS, like pattern recognition, hypothesis testing, and self-monitoring, to enhance their grammatical knowledge. Researchers investigating language learning strategies primarily focus on their role in language acquisition and their relationship with various individual learner characteristics. Griffiths (2008) highlights that GLS possess distinctive characteristics: (1) they are actions taken by the learner, (2) their application is at least partly conscious, (3) they are optional in their use (4) their use entails goal oriented, purposeful activity, and (5) they are used to regulate, facilitate, and control the process of learning. Griffiths (2008) also summarized that the selection of strategies is influenced by a number of factors such as learner's proficiency level (Green & Oxford 1995; Lan & Oxford 2003), sex (Dreyer & Oxford 1996; Ehrmann & Oxford 1989), gender (Dreyer & Oxford 1996; Ehrman & Oxford 1989; Lan & Oxford 2003; Oxford & Nyikos 1989; Zimmerman & Martinez-Pons 1990; Kaylani 1996; Liu 2004), cultural background (Griffiths & Parr 2000; Dickinson 1996; Parry 1993; Tyacke & Mendelsohn 1986) learning style, previous experience in learning and motivation (Oxford & Nyikos 1989; Braten & Olaussen 1998; Mihaljević Djigunović 2001; Chang 2005; Dörnyei 2006), as well as personal beliefs and assumptions about language learning (Bialystok 1978).

Rampillon (1995: 85) highlighted that a key characteristic of GLS is their adaptability, i.e. existing strategies can be modified and transferred, new ones can be learned and adopted, while unsuccessful ones abandoned. Similarly, Pavičić Takač (2008: 55) emphasized that the strategies are oriented towards the broad goal of development of communicative language competence, often involving interaction with other learners. She also notes that, in addition to the cognitive processes, strategies also involve the metacognitive, social and affective aspects. In addition, the flexible use of strategies not only contributes to

learning, but also facilitates their transfer across different contexts (*cf*. Wenden 1987, 1991). Moreover, strategies as individual differences can be practiced until their use becomes automatic, i.e. until learners become skilled and efficient in strategy use. What makes strategies particularly intriguing for both teachers and researchers is the fact that they can be taught. Additionally, the flexible application of strategies enhances learning and facilitates their transfer across different contexts (*cf*. Wenden 1987, 1991). This adaptability and teachability make learning strategies particularly valuable for both educators and researchers, as it opens up possibilities for targeted strategy instruction to enhance language acquisition.

In a Scottish educational context, Kemp (2007) found a correlation between GLS and grammatical competence in multilingual speakers. The study revealed that multilinguals, with experience in various grammatical systems, applied more learning strategies than bilinguals. Their proficiency enabled them to develop their own strategies, expanding the list of grammar strategies. Notably, the use of strategies, known as the threshold effect, was more pronounced during the acquisition of a third language and continued to increase with each subsequent foreign language learned.

In this study, we employed a questionnaire based on the categorization of GLS proposed by Božinović (2012), which distinguishes five groups. The first group, active GLS, reflects intrinsic motivation and requires self-discipline and critical reflection; learners use practice, listening, and writing to improve their grammar, detect errors, and connect new material with prior knowledge. The second group, grammar memorization strategies, involves mental processing (e.g., memorizing verb endings and irregular forms) and includes techniques such as grouping, association, elaboration, and repetition. The third group, social strategies, emphasizes peer interaction, supporting grammar learning and promoting interpersonal understanding. The fourth group, visual strategies, includes methods like highlighting or writing out grammatical forms. Finally, the fifth group, grammar self-discovery strategies, belong to self-motivational approaches (*cf*. Cohen & Dörnyei, 2002), characterized by conscious, self-initiated learning processes typically employed by highly motivated learners who acquire grammatical knowledge independently.

4. Gender differences in the use of grammar learning strategies

Gender is considered as an important factor in language learning strategy selection, as it significantly influences the choice of strategies (Oxford & Nyikos 1989). Numerous studies have indicated that males and females employ different strategies based on their gender characteristics. However, research on the relationship between gender and strategy use has produced inconsistent results. While some studies (Alhaisioni 2012; Božinović & Sindik 2011; Dreyer & Oxford 1996; Green & Oxford 1995; Lan & Oxford 2003; Lee & Oh 2001; Oxford & Ehrman 1995; Oxford & Nyikos 1989; Kaylani 1996; Lan & Oxford 2003; Mihaljević Djigunović 1999; Gurata 2008; Tam 2013) suggest that females use learning strategies more frequently than males, others highlight variations in strategy preferences rather than overall usage.

Females have been reported to favor general study strategies, formal rule-related practice strategies, and conversational input elicitation strategies, likely due to their strong motivation for academic achievement and social approval (Oxford & Nyikos 1989). In contrast, male students tend to be less willing to engage in communicative interactions or seek assistance from other language learners (Tam 2013). Additionally, studies have shown that females use more metacognitive, social, and affective strategies compared to males (Gurata 2008). Oxford and Nyikos (1989), in their study on the sample of 1200 adult learners of French, Spanish, Italian, and German, demonstrated that gender plays a significant role in strategy selection, with women employing all types of strategies more frequently. Similarly, in the research conducted by Ehrman and Oxford (1989) it was found that female learners, including students and professors studying languages such as Indonesian, Turkish, Italian, Hungarian, and Arabic, more frequently utilized general learning strategies, authentic strategy use, strategies of interpreting and communicating meaning, and self-directed learning strategies. Green and Oxford (1995) discovered that females tend to use social-affective and memory strategies more frequently than males. The authors suggest that this finding reflects women's tendency to see themselves as global learners who are more self-reflected, emotionally engaged in learning, socially active, and seek social approval. In contrast, Phakiti (2003) found that male learners reported a greater strategy use, particularly metacognitive strategies, which involve planning, monitoring, and evaluating their learning processes.

Furthermore, Green and Oxford (1995) also found that men and women approach language learning differently, which may be linked to

variations in learning styles, motivation, and attitudes. Similarly, Lan and Oxford (2003) observed that female elementary school students used nearly all types of learning strategies more frequently. They attributed this to a greater interest in the English language, suggesting that higher motivation plays a key role in female learners' strategy use.

The research conducted by Fitri et al. (2023) further supports these findings, showing that male students tend to use cognitive strategies, which involve direct manipulation of learning materials through techniques such as repetition and analysis, while female students prefer social strategies, engaging in collaborative learning activities and seeking help from peers and instructors. These results highlight the important role of gender in selecting GLS.

Nasab and Motlagh (2017) investigated gender differences in narrative speaking skills among advanced language learners. The findings revealed that female learners spoke more fluently, with fewer pauses and less stress compared to male learners. Additionally, females used a wider range of verbs, adjectives, and connectors, while males had more interruptions and grammatical inaccuracies in their speech. These findings suggest that female learners may have stronger narrative speaking abilities due to their use of more diverse linguistic structures and smoother speech. In contrast, the higher number of interruptions and grammatical errors among male learners highlights the need for targeted support to improve their fluency and accuracy in spoken language.

5. Methodology

5.1. Aim

This study aims to analyze the role of GLS in the process of acquiring a third language (L3). The focus of this research is on GLS in German as L3 by learners with Croatian as their first language (L1) and English as their second language (L2). Our initial hypothesis is that adult language learners use different GLS when learning different foreign languages, and that these strategies are partly transferred from their mother tongue or another foreign language they have previously learned. Furthermore, our hypothesis is that gender differences exist in the frequency of the use of GLS. In line with the classification of GLS proposed by Božinović (2012: 164–168), the study aims to answer the following research questions:

- Which groups of GLS are used most and least frequently?
- Are there gender differences in the frequency of the usage of GLS?

5.2. Participants

A total of 150 students, aged between 19 and 25, participated in this study, all learning German as their third language (L3). Of these, 72 identified as male (48%) and 78 as female (52%). At the time of data collection, only the categories “male” and “female” were used, and no additional options (such as other gender identities or the option not to disclose) were included in the demographic survey. This represents a limitation of the study, as it does not account for the full spectrum of gender identities and may influence the interpretation and generalizability of the findings related to gender differences in strategy use. All participants were native Croatian speakers who had previously learned English as their second language (L2) and were currently learning German as their third language (L3). They were enrolled in Beginning and Intermediate German courses (corresponding roughly to CEFR levels A1 and B1) at the Rochester Institute of Technology’s subsidiary in Croatia (RIT Croatia). They all reported that they have never been to a German-speaking country, and their first exposure to the German language was when they enrolled in the Beginners’ German course. Students at RIT Croatia are highly proficient in English, having started learning it at an early age. English is the official language of instruction at the institution, and all courses are taught in English. As a result, students typically achieve near-native or advanced proficiency in English (C1 or higher on the CEFR scale). Additionally, some students spend at least one semester studying at the home campus in the United States, which further enhances their language proficiency.

5.3. Instrument

Data on GLS were collected through a structured questionnaire designed to measure the type and frequency of GLS used (Božinović, 2012). The questionnaire consists of two parts. The first part collects demographic information and details about the participants' language repertoire. The second part of the questionnaire is an instrument designed to measure GLS (Questionnaire on grammar learning strategies). The questionnaire contains 48 statements that correspond to the individual GLS classified in the categories above. The frequency of GLS use is assessed using a Likert scale ranging from 1 to 5 (1 - I never do it, 2 - I mostly don't, 3 - I sometimes do it, 4 - I often do it, 5 - I always or almost always do it).

5.4. Data analysis

The data were collected during regular foreign language classes at RIT Croatia. Respondents were not informed in advance that the survey would be conducted, ensuring that they provided honest answers. The questionnaire was administered anonymously to keep the respondents as honest as possible in answering the questions. Data analysis was performed using both descriptive and inferential statistics. Gender differences were established by discrimination analysis, while the differences in the frequency of individual learning strategy use by male and female respondents were established by t-test for dependent samples. The statistical software SPSS 17.0 was used to analyze the data (SPSS Inc., 2008, SPSS Statistics for Windows, Version 17.0, Chicago: SPSS Inc.).

6. Results and Discussion

The results indicate a statistically significant difference in the use of the individual groups of GLS. Table 1 shows that the most frequently used strategies are grammar self-discovery strategies (M=3.54), followed by grammar memorization strategies (M=3.29) and active GLS (M=3.36). The least frequently used strategies are visual strategies (M=2.73) and social strategies (M=2.94). An analysis of the mean values reveals an asymmetry in most of the arithmetic means, with a tendency toward higher values. This suggests that respondents may be employing a wider variety of GLS simultaneously.

Table 1. Descriptive statistics for individual dimensions of GLS (p <, 01)

Grammar learning strategies	**M**	**SD**
Strategies of grammar self-discovery	3.54	,785
Grammar memorization strategies	3.29	,712
Active grammar learning strategies	3.36	,675
Social grammar learning strategies	2.94	,709
Visual grammar learning strategies	2.73	,854

p <, 01

As indicated in Table 2, all correlations among the GLS are statistically significant, positive, and of medium strength. The strongest correlation was found between grammar memory strategies and social GLS ($r = 0.550$, $p < 0.01$), suggesting that students who rely on grammar memory strategies (e.g., memorizing rules or paradigms) are also likely to employ social strategies, such as discussing grammar with peers or asking for clarification. Another strong positive correlation was found between active GLS and social GLS ($r = 0.533$, $p < 0.01$), indicating that students who actively apply grammar rules in practice also tend to use social strategies.

The weakest correlation, though still statistically significant and positive, was found between active GLS and visual GLS ($r = 0.285$, $p < 0.01$). The comparison of mean values further showed that social strategies were used less frequently than memory strategies, pointing to differences in strategy preference among learners. Social strategies nonetheless display strong connections with other GLS, suggesting that they play a crucial role in grammar learning. In contrast, visual strategies exhibit the weakest associations with other strategies, which may indicate that students tend to use them independently rather than in combination with other learning approaches. Finally, the distribution of mean values shows a slight asymmetry toward higher scores, suggesting that many respondents employ a broader repertoire of GLS simultaneously rather than relying on a single type.

Table 2. Differences and correlations among grammar learning strategy use frequency (t-test for dependent samples and Pearson's correlation)

Individual Strategy Groups (Correlated Pairs)	**M**	**SD**	**Correlations**	**t-test**	**p**
Active GLS / Memory Strategies	3.58	0.615	**0.436**	17.089	p<0.01
Active GLS / Social Strategies	**3.58**	**0.615**	**0.533**	**19.576**	**p<0.01**
Active GLS / Visual Strategies	3.58	0.615	**0.285**	-6.809	p<0.01
Memory GLS / Strategies of Grammar Self-Discovery	3.70	0.722	**0.450**	19.154	p<0.01
Memory GLS / Social GLS	**3.70**	**0.722**	**0.550**	**22.164**	**p<0.01**
Memory GLS / Visual GLS	3.70	0.722	0.116	-3.235	p<0.01
Strategies of Grammar Self-Discovery / Social GLS	3.84	0.685	**0.452**	3.320	p<0.01
Social GLS / Visual GLS	2.97	0.719	**0.167**	-19.316	p<0.01
Strategies of Grammar Self-Discovery / Visual GLS	3.84	0.685	0.118	-19.204	p<0.01

Note: M= Mean; SD= Standard Deviation; t= Paired-samples t-test; p= statistical significance of the t-test

As indicated in Table 3, the univariate analysis of variance revealed statistically significant gender differences in the use of GLS, particularly for grammar memory strategies and visual strategies. Female learners (M = 0.112) scored significantly higher than males (M = –0.269) on grammar memory strategies, and similarly higher on visual strategies (females: M = 0.214; males: M = –0.514). These results indicate that female learners are more inclined to rely on memorization and visual supports in grammar learning. No significant gender differences were found for active, social, or self-discovery strategies, suggesting that both male and female learners use these strategies at similar levels. These findings support our initial hypotheses, developed on the basis of previous studies, that gender differences exist in the frequency of the use of GLS. They also suggest that female respondents generally employ a wider range of strategies than their male counterparts (Alhaisoni 2012; Božinović & Sindik 2011; Dreyer & Oxford 1996; Ehrman & Oxford 1989; Green & Oxford 1995; Kaylani 1996; Lan & Oxford 2003; Lee & Oh 2001; Lee & Oxford 2008).

Table 3 Discrimination analysis of individual dimensions of GLS questionnaire according to respondent's gender

VARIABLE	Wilks'	Correlation with discrimination factor	F-test (1,399)	p	**M** male	male	**M** female	female
Active grammar learning strategies	0,996	0,160	1,760	>0,10	-0,103	0,983	0,043	1,005
Grammar memorisation strategies	**0,970**	**0,424**	**12,422**	**<0,01**	**-0,269**	**0,871**	**0,112**	**1,03**
Social grammar learning strategies	0,999	-0,073	0,364	>0,200	0,047	0,957	-0,019	1,019

Visual grammar learning strategies	**0,889**	**0,847**	**49,621**	**<0,01**	**-0,514**	**0,838**	**0,214**	**0,986**
Strategies of grammar self-discovery	0,998	-0,096	0,642	>0,200	0,062	1,001	-0,026	1,000

Note: M= arithmetic mean; □= standard deviation; p= statistical significance

Regarding specific types of GLS, the results confirm that grammar self-discovery, memory, and active strategies are the most frequently used, while visual and social strategies are least used (see Table 1). Moderate positive correlations were observed among all types, with the strongest correlations between memory and social strategies, and between active and social strategies (see Table 2). This indicates that students who rely on grammar memory strategies also tend to use social strategies, such as discussing grammar rules with peers, which is in line with previous research (Gurata 2008; Filtri et al. 2003). The weakest correlation, although still statistically significant and positive, was found between active and visual strategies, confirming that these categories represent distinct dimensions of learning strategies.

According to Oxford (1990), active strategies belong to the group of cognitive strategies, which have an operational function and help learners process the material to be learned. Social strategies, on the other hand, are often categorized as indirect strategies, allowing a student to interact with other participants in the learning process and supporting learner motivation, confidence, and persistence, all of which are necessary for successful language learning.

Gender-based differences further suggest that female learners favor verbal and visual learning styles, which aligns with their higher use of memory and visual strategies in this study. Furthermore, females might rely more on rote learning and structured approaches, which help them effectively retain and recall grammar rules. By contrast, male learners may prefer rule-based reasoning and independent problem-solving, which could explain their lower use of grammar memory and visual GLS. Previous studies also suggest that female students often

demonstrate stronger collaborative and social engagement in language learning, whereas male students may show greater autonomy and logical reasoning (Jamiah et al. 2018). This study also revealed that there is no statistically significant gender difference for active GLS, social GLS and strategies of grammar self-discovery which may indicate that both males and females use these strategies at similar levels.

Our study revealed differences in the use of learning strategies between male and female participants, which is consistent with the findings of previous research (Jamiah et al., 2018). Specifically, these authors noted that male learners more frequently relied on compensation strategies, whereas female learners tended to use social strategies. Female students enjoyed discussing language-related topics and demonstrated strong abilities in social interaction and collaborative thinking—features typically associated with social strategies. In contrast, male students were more inclined to express their ideas independently, displayed logical reasoning, and showed better coordination skills—traits commonly linked to compensation strategies. Tam (2013) also found a significant difference in the use of different types of strategies, where female learners used memory, compensation, cognitive, metacognitive, and social strategies more frequently than males. This author also states that gender is an important factor influencing the use of language learning strategies, besides the second language proficiency and socioeconomic status.

The findings of this study also suggest that female learners may be more organized and structured in their learning approaches, which encourages them to systematically record and organize linguistic information, making it more likely that they will employ visual strategies (e.g., graphic representations, tables, diagrams) as well as grammar memory strategies. Namely, organization and structured learning facilitate the creation of clear mental connections and systematic patterns, which are at the core of these strategies. Some studies suggest that girls generally develop language skills earlier than boys, which may lead to more advanced language processing abilities at later stages (Adani & Cepanec, 2019). Additionally, some scholars argue that women are generally more eloquent and fluent in language use (e.g., Cameron, 2008; Wang, 2015). One possible explanation is that women, when performing linguistic tasks—particularly communicative ones such as listening and speaking—use both brain hemispheres and activate more brain centers than men (Nyikos, 2008). However, men are generally characterized by better visuospatial abilities as well as stronger

mathematical reasoning skills, which may explain their greater success in fields such as mathematics, engineering, and the physical sciences (Benbow et al., 2000).

Additional research suggests that gender differences in strategy use may reflect both biological and socialization factors. Contemporary research highlights the need to move beyond binary classifications and consider how cultural norms, identity development, and societal expectations shape students' behaviors and learning preferences (Green & Oxford 1995). Oxford (1990) highlights that females generally have greater social orientation, stronger verbal skills and greater conformity to linguistics and academic norms compared to males. Similarly, Zhou (2000) states that female learners tend to be more active in using language learning strategies and demonstrate higher motivation to succeed in school. The findings of this research indicate that female primary school students are more willing to work hard and utilize learning strategies to enhance their learning, whereas male students tend to be more engaged in play-related activities.

According to our expectations, our respondents predominantly use a combination of grammar memory strategies, indicating intrinsic motivation and a concerted effort to master the grammatical structures of a foreign language. Grammar memory strategies belong to the group of cognitive strategies which serve as an additional driving force for foreign language grammar learning. Given that the respondents are adult L3 learners of German, it can be assumed that they want to enhance their grammatical competence to achieve greater success in future business environments, emphasizing the need for developing communicative language competence.

The findings of this study indicate that students already use, combine, and adapt various strategies in new linguistic contexts in order to communicate effectively. This process reflects strategy orchestration and metacognitive awareness, which enable them to optimize learning and overcome challenges. Jessner (2008) emphasizes that both metalinguistic and metacognitive awareness play a key role in the development of strategies among multilingual speakers, while research shows that they use strategies differently and more frequently than monolinguals (McLaughlin, 1990; Jessner, 2008; Dolgunsöz, 2013). The development of multilingual learning strategies contributes to strengthening language competence and cognitive flexibility, which represents an important advantage of multilingual speakers. However, this study does not provide empirical evidence of an advantage of L3 learners over L2 learners. It would be beneficial to compare the current

data with findings from previous studies to highlight differences related to the languages learned and to evaluate the relative effectiveness of GLS in L3 versus L2 acquisition.

7. Conclusion

The study aimed to provide an insight into the GLS that adult learners of German mostly use, as well as to establish gender differences in strategy use. The research findings reveal statistically significant differences in the frequency of specific GLS: grammar self-discovery strategies, grammar memorization strategies, and active grammar learning strategies were employed most often, while visual GLS and social GLS were used less frequently. Additionally, the research findings have confirmed that grammar strategy use differs by gender. The findings revealed that female students used all types of GLS more frequently than males, except for social GLS. One possible explanation for this finding is that female learners tend to rely more on a wider range of cognitive and metacognitive strategies, reflecting a generally higher level of strategic awareness and self-regulation in language learning (Oxford & Nyikos, 1989; Green & Oxford, 1995). These studies consistently show that female learners report more frequent use of strategies overall, particularly those involving organization, memorization, and self-monitoring strategies. However, in the case of social GLS, male learners may have been equally or even more inclined to use strategies involving peer interaction, group work, or oral practice. This could reflect gender-related differences in communication styles, confidence in peer collaboration, or classroom dynamics, where male learners may feel more comfortable engaging in interactive activities than in solitary strategy use.

Although the frequency of visual and social strategies was relatively low, this does not imply that all strategies are equally effective or should be used with the same frequency. Previous research shows that the effectiveness of GLS depends on individual learner profiles, proficiency levels, and learning contexts (Oxford, 1990; Cohen, 2014). Raising students' awareness of less frequently used strategies may help them identify the strategies that work best for their own learning and foster autonomy and self-directed learning. In particular, the use of social strategies (e.g., interaction with peers) and visual strategies (e.g., associating words with images) can support the development of communicative competence, complementing grammatical knowledge

and enhancing learners' ability to interact in multicultural or international environments.

The role of explicit strategy instruction by teachers is crucial in this process, as guidance can facilitate more effective use of GLS and support learners in selecting and combining strategies to optimize their learning. While this study focused on students' self-reported strategy use, future research should investigate the impact of teacher guidance and explicit instruction on strategy selection and effectiveness. Additionally, it would be valuable to explore how learners' proficiency levels influence the choice and frequency of GLS, as well as whether gender differences exist in the use of both "universal" and grammar-specific strategies in L3 German.

Finally, systematic research into GLS remains essential, as it contributes to a deeper understanding of foreign language acquisition and informs effective teaching practices. Expanding knowledge of strategy use across languages, learner profiles, and instructional contexts can help educators design targeted interventions to enhance communicative competence in adult learners.

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GESCHLECHTSUNTERSCHIEDE BEIM EINSATZ VON GRAMMATIKLERNSTRATEGIEN UNTER ERWACHSENEN LERNENDEN: EINBLICKE AUS DEM KONTEXT DEUTSCH ALS L3

Ziel der vorliegenden Studie ist es, die von erwachsenen Deutschlernenden angewandten Grammatiklernstrategien (GLS) zu untersuchen, deren Muttersprache (L1) Kroatisch und Zweitsprache (L2) Englisch ist. Die Studie untersucht speziell insbesondere die am häufigsten und am seltensten verwendeten Grammatiklernstrategien sowie geschlechtsspezifische Unterschiede in deren Anwendung. Der Fragebogen zu Grammatiklernstrategien (Božinović, 2012) wurde verwendet, um die Nutzung von Lernstrategien durch die Teilnehmenden zu bewerten. Die Ergebnisse zeigten, dass die Lernenden Grammatiklernstrategien mit mittlerer Häufigkeit beim Erlernen von Deutsch als ihrer L3 anwendeten. Unter den verschiedenen Strategien wurden Strategien zur Selbstentdeckung der Grammatik und aktive Grammatiklernstrategien am häufigsten genutzt, während visuelle und soziale Strategien am seltensten zum Einsatz kamen. Darüber hinaus wurden statistisch signifikante geschlechtsspezifische Unterschiede in der Anwendung von Grammatiklernstrategien festgestellt. Weibliche Lernende wendeten häufiger Grammatikgedächtnisstrategien und visuelle Grammatiklernstrategien an als ihre männlichen Kollegen. Diese Ergebnisse deuten darauf hin, dass Fremdsprachenlernende gleichzeitig eine Kombination verschiedener Grammatiklernstrategien verwenden, die sie flexibel an neue Sprachumstände anpassen und miteinander kombinieren. Durch die gleichzeitige Anwendung mehrerer Strategien können die Lernenden ihre grammatikalische Kompetenz und ihre allgemeine Sprachfertigkeit verbessern. Die Studie hebt die Bedeutung individueller Unterschiede, insbesondere geschlechtsspezifischer Präferenzen, bei

der Entwicklung effektiverer und personalisierter Sprachlernstrategien hervor.

Schlüsselwörter: Grammatiklernstrategien, Strategieorchestrierung, metakognitive Strategien, geschlechtsspezifische Unterschiede, Fragebogen zu Grammatiklernstrategien