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LEARNER STRATEGIES AND THE PERCEPTION OF CROSS-LINGUISTIC INTERACTION IN YOUNG L3 LEARNERS: AN EMPIRICAL STUDY IN PRIMARY SCHOOL FLT

Abstract

Founded on psycholinguistic insights into the interaction between the language systems of multilinguals and the key role that language learning awareness carries in the development of L3 students' multilingual systems, the paper deals with the use of learner strategies and the perception of cross-linguistic interaction. The results of the empirical research carried out on an extensive sample of primary school students whose L1 is Croatian, while L2 and L3 are English or German, show that primary school L3 learners apply both examined components of language learning awareness in learning and using languages. However, the findings also suggest that their multilingual potential is neither used nor developed sufficiently in primary school language teaching.

Key words: cross-linguistic interaction, language education, language learning awareness, learners' strategies, multiple language acquisition, primary school

1. Introduction

Research of third language acquisition (TLA) and multiple language acquisition (MLA)[1] shows that the process of TLA is essential for developing individual

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1   Despite the differences in focus, *TLA* and *MLA* will be used here as synonyms. The abbreviation MLA for *multiple language acquisition* used in this paper should not be confused with the abbreviation MLA for *multilingual awareness* used by Jessner and her co-authors. (Jessner and Allgäuer-Hackl 2015, Hofer and Jessner 2019).

multilingualism (Hufeisen 2010) and that, in comparison with second language acquisition (SLA), it has marked specificities (Jessner and Allgäuer-Hackl 2015). One of the central characteristics of complex multilingual systems which start to develop with the introduction of L3 is *cross-linguistic interaction* (CLIN) – a dynamic and multidirectional interplay of a multilingual learner's language systems (Hofer and Jessner 2019; Jessner 2006). Based on that, multilinguals can explore the potentials for developing and applying *multilingual awareness* (Hofer and Jessner 2019; Jessner 2006) and *language learning awareness* which, in their interdependence, can have a positive effect on the improvement of language abilities and foster efficiency in language learning (De Angelis and Jessner 2012; Jessner 2018; Marx and Hufeisen 2010).

The focus of this paper comprises two components of language learning awareness in MLA learner strategies and learners' perception of the interaction between languages learned. Starting from the theoretical and empirical insights in that area, the paper presents the results of an empirical study of the two mentioned aspects carried out on a sample of L3 students in a Croatian primary school.[2] The findings are discussed in the context of institutional FLT.

2. Language learning awareness in multiple language acquisition – theoretical and empirical insights

Within the context of dynamic system theory, psycholinguistic knowledge, which emphasizes that language systems of multilinguals are neither added nor overlapped but engage in a dynamic interaction creating an entirely new quality of individual subsystems and the overall multilingual system, is essential. Based on this, Hofer and Jessner (2019: 6) propose that "[t]he common proficiency underlying multiple languages can be thought of as an extended and integrated *multilingual operating system* (MOS) with dynamic and complex cross-language interactions and with cross-fertilization effects that facilitate and expedite the processing and learning of multiple languages." The *Dynamic Model of Multilingualism* (Herdina and Jessner 2002; Jessner 2006) models these interactions and postulates that the interrelationship between languages and the variability of involved language systems is manifested in the complex set of specific phenomena known as *cross-linguistic interaction* (CLIN). In last few decades, research in MLA has shifted its focus of CLIN from rather negative cross-linguistic influence in the sense of interference, code-switching and borrowing, to possible positive manifestations of the dynamic interplay of languages like transfer of knowledge, use of analogies, and cross-lingual inferencing (Hofer and Jessner, 2019). In other words, the concept of CLIN encompasses various synergy as well as interferential effects on the development of the language systems of multilinguals, which are reflected in the development of learner's specific metacognitive abilities (Jessner 2006; Hofer and Jessner 2019). It is thought that the quantitative growth of CLIN in multilinguals improves the process of TLA (De Angelis and Jessner 2012; Hufeisen and Jessner 2018).

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2   Primary school in Croatia comprises grades 1-8.

It is crucial that the TLA takes place "[...] at the existing bilingual norm [...]" (Jessner and Allgäuer-Hackl 2015: 218), which opens multiple and multidirectional possibilities for the transfer of language knowledge between L1, L2, and L3. What is more, as emphasised by the *Factor Model of Multiple Language Acquisition* (Hufeisen, 2010), based on the previously acquired knowledge in the process of foreign language learning and on learning strategies, L3 learners dispose of significant learning experience and therefore they approach the L3 in a more cognitive manner. As a result of such processes, but also as their catalyst, TLA research stresses the importance of developing language awareness. Jessner (2006), in the context of MLA, refers to this as *multilingual awareness*, which includes *metalinguistic* and *cross-linguistic awareness* and is "conceptualized as the ability to focus on multiple languages at any time and to reflect and contrast aspects of languageS[3] at all levels, from the linguistic to the sociocultural and pragmatic" (Hofer and Jessner 2019: 2). Another indispensable component of MLA, alongside multilingual awareness, is language learning awareness (Bär 2009; Behr 2007; Jessner 2018) which enables learners to reflect, understand and accordingly control their own learning process (Jessner 2018). MLA relies on language learning awareness but at the same time, it also encourages its development (Jessner 2018).

The function of these two closely related forms of awareness in learning languages is observed by FLT specialists as rationalisation and increased efficiency of L3-Ln teaching, including an increase in motivation (Neuner 2004; Rampillon 2005; Bär 2009) as well as encouragement of student autonomy in acquiring L3-Ln as preparation for lifelong learning. However, the use and development of the plurilingual potential of L3 students is not self-explanatory. Some of them, regardless of their simultaneous acquisition of several languages, retain the *monolingual modus* (e.g. Müller-Lancé 2003), which inhibits the possible positive effects of CLIN. Therefore, the teaching of languages should systematically develop multilingual awareness and language learning awareness (Hofer and Jessner 2019).

The interest of this paper is directed towards language learning awareness in MLA. This comprises the procedural component or "awareness and knowledge of one's own process of foreign language learning" (Neuner 2004: 28), and knowledge of general characteristics of foreign language learning, and personal behaviour within that process (Neuner 2004). The central role within language learning awareness is attributed to strategies learners use in language learning processes (Bär 2009; Behr 2007; Nosratinia et al. 2014). In this paper, we will refer to these strategies as learner strategies in the process of MLA that rely on cross-linguistic similarities and transfer between languages (Dimitrenko 2017). Accordingly, these strategies include comparison and transfer between languages as well as the establishment of interlingual connections (Hufeisen 2010; see also Hufeisen and Jessner 2018) in both language reception and language production. The basis for developing and fostering the aforementioned strategies is the reflection and verbalisation of their use in the language learning process (Neuner 2004). This is why we consider social strategies, such as asking questions and cooperating with others (Oxford et al. 1989), as an important component of learner strategies in MLA.

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3   At this point, we find it relevant to remind the reader that primary school in Croatia comprises eight grades.

The development and use of learner strategies in MLA is closely related to the learners' perception of MLA, i.e. with the individual's experience of specific processes of MLA and their impact on achievement in learning and using languages. The key role in this segment is attributed to the way students perceive CLIN, as this is the foundation on which they can develop and apply appropriate strategies, and hence improve their process of learning and using languages (Jessner et al. 2016). Therefore, the narrower focus of this paper is directed towards learner strategies and the perception of CLIN as two relevant components of MLA.

Research on learner strategies among multilinguals established that the repertoire of strategies increases with the number of languages learned or with the time spent on learning (for an overview, see Dimitrenko 2017), that L3 learning represents a minimal threshold after which students more frequently and in greater number apply learner strategies (Kemp 2007, see also Sung 2011), and that the use of strategies can be improved by targeted input for raising awareness of processes and strategies in TLA (Bär 2009; Behr 2007; Dahm 2017; Petravić and Horvatić Čajko 2014). Correlations between the use of certain learner strategies and the frequency between informal language use outside the classroom were also detected (Mißler 1999). Furthermore, research has shown that multilinguals use specific learner strategies (Bär 2009; Kemp 2007). They mainly rely on the search for similarities as a typical strategy of (multi)lingual processing (Jessner 2006; Török and Jessner 2017), and they, depending on the language proficiency, also use various compensatory production strategies (Letica Krevelj 2012).

Considering learners' perception of MLA, research shows that adults, as well as young learners are aware of CLIN. They use previously acquired knowledge in other languages when decoding meaning of a less known or unknown language (Hofer and Jessner 2019; Woll 2018), and they are able of expressing their metalinguistic and cross-linguistic reflections to some extent (Hofer and Jessner 2019; Troha et al. 2020). Metalinguistic and cross-linguistic awareness are also closely related to learner strategies, as multilinguals use different strategic processing than mono- or bilinguals when encountering an unknown language (Hufeisen and Jessner 2018).

According to the results of previous findings (for an overview of the research, see Cenoz and Gorter 2022), one of the important factors influencing CLIN is the subjective experience of the distance or closeness of the L1-L2-L3 language systems. For various language constellations with differing outcomes, the tested assumption has been that in learning and using L3, the role of the supplier language is not necessarily performed by the language, which is objectively similar to the target language, but the language students perceive as similar (Letica Krevelj 2016; Lindquist 2017; Ó Laoire and Singleton 2009). Research on the subjective theories of multilinguals regarding MLA provided further insights into learners' perception of CLIN. The findings warned of students' awareness of specific teaching methods and appropriate L3-Ln learning strategies (Kallenbach 1998) and indicated that learners comprehend both positive and negative effects of CLIN, however only some of them are capable of productively integrating inhibiting aspects of CLIN into individual MLA processes (Hufeisen 1998).

These insights concerning learner strategies and the perception of CLIN have mainly been obtained from studies on adolescent and adult populations and numerically limited participant samples. However, there are also some empirical studies (so far known to us) which, in their investigation of the broader context of MLA among 8 to 13 year-old children, sporadically yielded findings on learner strategies and their perception of CLIN (Hofer 2015; Hofer and Jessner 2019; Jessner at al. 2016; Kierepka and Krüger 2007; Troha et al. 2020; Troha 2022). These studies indicate that children possess the ability to perceive CLIN and use some learner strategies, especially when provided with specific input. Based on this information, there is a need for research with a narrower focus on these two aspects of language learning awareness in MLA, involving a larger number of younger L3 learners in an institutional setting. Such research could be essential for deepening the understanding and scientifically improving institutional learning and teaching of L3-Ln, and of language education in general.

Within that framework, the following sections of this paper report on the empirical research of language learning awareness in MLA in primary school FL learning regarding two language constellations typical for Croatian education – English or German as L2 or as L3. That means that both languages are being learned – either as the obligatory first foreign language (FL1) starting in grade 1 or as the second foreign language (FL2), which can be selected in grade 4.

3. Empirical research of L3 students' language learning awareness in MLA in primary school

3.1 Method

Goals and research question

The basic aim of the research was to gain insight into the perception of CLIN and learner strategies in MLA among primary school students guided by the following research questions:
1.   Do students notice CLIN between languages they are learning and what is their perception of those occurrences?
2.   Are learner strategies in MLA used by students and to what extent?
3.   Is there a relationship between the perception of CLIN and use of learner strategies?

The formulation of our hypotheses was guided by previous research which established that length of FL learning (see Dimitrenko 2017), and the informal use of language in out-of-school contexts including media, peer communication, and others (Mißler 1999), affecting learners' perception of CLIN and the use of learner strategies. In that respect, it can be assumed that students who have English as their first foreign language (FL1), which is also the language they are more exposed to in an out-of-school context, will more frequently observe CLIN and use more learner strategies.

In that respect, the following hypotheses were set:

Hypothesis 1. Students who have been learning a foreign language for a longer time,

implying students of higher grades, will more frequently observe CLIN and more frequently use learner strategies.

Hypothesis 2. Students whose first foreign language is English will more frequently observe CLIN and more frequently use learner strategies.

Participants

The research was part of an extensive study of multilingual profiles of primary school[4] students in grades 4–7. The sample comprised 580 students between the ages of 9 and 14 from four schools in Zagreb. Relating to the second hypothesis (H2) and based on data from the language biography questionnaire, students with Croatian as L1 who are learning English and German respectively as L2/FL1 and L3/FL2 were extracted from the sample. We are referring to 454 students, i.e. 78.28% of the total sample of which 50.9% are girls. The FL1 of two-thirds of the subsample was English, while one-third reported learning German as FL1. The subsample encompassed 30.6% of the students from grade 4, 24.7% from grade 5, 24.4% from grade 6, and 20.3% from grade 7 (Table 1)

Table 1. Sample breakdown with respect to grade attended
and foreign language learned as FL1

		FL1		
		English	German	Total
Grade	4	94 (30.82%)	45 (30.20%)	139 (30.62%)
	5	74 (24.26%)	38 (25.50%)	112 (24.67%)
	6	80 (26.23%)	31 (20.81%)	111 (24.45%)
	7	57 (18.69%)	35 (23.49%)	92 (20.26%)
Total		305 (67.18%)	149 (32.82%)	454

The research was conducted at the end of the first semester. In that respect, the duration of learning FL1 ranged between four years and three to four months, or seven years and three to four months. For FL2 learners, the duration of learning ranged from three to four months, or three years and three to four months.

Instruments

As part of the study on the multilingual profiles of primary school students, a series of instruments and research procedures were used. This paper presents the results of the questionnaire which comprised three parts all formulated in the Croatian language as the students' mother tongue to ensure comprehension for the students:
   a) language biography questionnaire comprising 14 questions relating to the languages students learn in school and out-of-school, motivation for learning languages, overall achievement in those subjects, etc.;
   b) 4-point scale questionnaire regarding learners' perception of CLIN at the general level of language systems where students estimated the frequency

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4   At this point, we find it relevant to remind the reader that primary school in Croatia comprises eight grades.

with which Croatian, English and German assist them in learning the other two languages in their language repertoire,

Item example:

Do the languages you are currently learning or have previously learned assist in your current language learning?
1 = never,   2 = sometimes,   3 = often,   4 = always;

When learning **Croatian**, I find assistance in:					When learning **English**, I find assistance in:					When learning **German**, I find assistance in				
English	1	2	3	4	Croatian	1	2	3	4	Croatian	1	2	3	4
German	1	2	3	4	German	1	2	3	4	English	1	2	3	4
another language _____	1	2	3	4	another language _____	1	2	3	4	another language _____	1	2	3	4

c) 4-point scale (from 1=never to 4=always) questionnaire regarding language learning awareness in MLA where students estimated the frequency of individual use of learner strategies and the perception of specific aspects of CLIN within MLA.

This instrument contained 31 items, partially formulated based on the qualitative findings derived from Hofer's (2015) research which provides examples of CLIN manifestations and learner strategies in nine-year-old participants' expressions. Additionally, observations from teachers who taught experimental groups of 5th grade students in the study of the role of multilingual competence in FL learning conducted by Troha (2022) during the 2016/2017 school year were used for formulating some items. To reduce the number of items and identify latent variables in learner awareness in the process of multiple language acquisition, an exploratory factor analysis was conducted. The Kaiser-Meyer-Olkin test (KMO=.878) and Bartlett's test of sphericity (p<.000) indicated that the correlation matrix of variables was suitable for factorization. The initial solution yielded 7 factors which explain approximately 55% of the shared variance. However, the last factor loaded significantly with only two items which showed weakness due to similar loadings on several factors. To improve the questionnaire, these items were removed. The final solution extracted six factors which explained approximately 53% of the variance (Table 2).

Table 2. Factor saturations and distributions of individual items
after applying Direct Oblimin rotation to the section of the instrument
regarding language learning awareness in MLA

Items	Factors					
	1	**2**	**3**	**4**	**5**	**6**
When I'm studying, the words I've already learned in other languages help me.	**.433**					
When I'm studying, I compare rules from different languages.	**.438**					
When I'm missing a word, I use a word from another language.	**.502**	.367				
When I'm speaking or writing in one language, similar words in different languages help me.	**.589**					
When I'm speaking or writing in one language, a rule from another language helps me.	**.606**					
When I'm reading or listening to a text in one language, familiar words from other languages help me in comprehension.	**.600**					
When I'm reading or listening to a text in one language, rules from other languages help me in comprehension.	**.573**					
I notice in my classmates that a rule from another language helps them.	**.513**					
When I'm studying, similar words in different languages confuse me.		**.697**				
When I'm missing a word, I invent one that sounds or seems as if it's from that language.	.362	**.591**				
When I'm speaking or writing in one language, I get distracted by words which are similar in different languages		**.682**				
When I'm speaking or writing in one language, I sometimes mix up words or rules from different languages.		**.626**				
When I'm speaking or writing in one language, I sometimes pronounce a word in a way that it sounds like it's from another language.		**.465**				
When I'm reading or listening to a text in one language, familiar words from other languages distract my comprehension.	-.309	**.360**				

When I'm reading or listening to a text in one language, rules from other languages distract my comprehension.	**.416**		.346			.349
It helps me when the teacher in one language class points out similarities with words or rules in another language that I'm learning.		**.753**				
It helps me when the teacher in one language class points out possible mistakes due to differences in the languages we are learning.		**.842**				
It helps me when the teacher in one language class gives ideas on how to use the knowledge from other languages we already have.		**.814**				
It helps me when the teacher in one language class organizes activities in which we make connections with different languages we are learning.		**.604**				
When I'm studying, I remember situations in class when the teacher compared words or related rules from different languages.		**.347**				
When I'm studying, I pronounce words from different languages out loud and compare their pronunciation.			**.484**			
When I'm studying, I make word lists in different languages that have the same meaning.			**.808**			
When I'm studying, I make lists of similar words from different languages.			**.786**			
When I'm missing a word, I ask the teacher.				**.721**		
When I'm missing a word, I ask my classmates.				**.620**		
When I'm speaking or writing in one language, I ask for assistance from the teacher or my classmates.				**.696**		
I notice among my classmates that they mix up words from different languages.						**.730**
I notice among my classmates that they mix up rules from different languages.						**.818**
I notice among my classmates, that they sometimes pronounce words from one language as if they were from another language.						**.604**
Eigenvalues	7.248	2.317	2.008	1.590	1.321	1.173
Percentage of variance	24.992	7.989	6.925	5.484	4.556	4.043
Cronbach's alpha coefficient	.768	.740	.758	.673	.635	.721

The first factor obtained through factor analysis is saturated with eight items related to the perception of supportive CLIN occurrences and on language production and reception strategies based on positive transfer at the lexical and morphosyntactic levels in language comprehension and production processes. We labelled this factor *positive CLIN* in learning and using languages. The second factor, *negative CLIN* in learning and using languages, is saturated with seven items which are conceptually comparable to the items of the previous factor but in an opposite direction and refer to the inhibitory effects of CLIN and instances of negative transfer. The third factor termed *noticing specific teaching methods* gathered five items related to teaching activities of cross-language linking and the integration of language knowledge and which relate to activities used by foreign language teachers while teaching. The remaining three factors are saturated with three items each. The fourth factor consists of items related to *learners' strategies for vocabulary acquisition*, namely, comparing the pronunciation, forms, and meanings of words from different languages. Items saturating the fifth factor represent *social strategies*, specifically seeking help from the teacher or classmate in situations where adequate linguistic means are lacking. The final, sixth factor, *noticing CLIN among peers*, is saturated with items related to noticing occurrences of mixing words, grammatical rules, and pronunciation from different languages by classmates.

Positive and negative CLIN in learning and using languages and noticing CLIN among peers are components of learner perception of specific aspects of CLIN in the process of MLA. On the other hand, strategies for vocabulary acquisition, social strategies and noticing specific teaching methods are constituents of learner strategies in MLA. It is important to note that due to the extensiveness of the questionnaire, it was necessary to limit the inclusion to specific learner strategies. Therefore, this research includes strategies which are age-appropriate for students and comprehensible in the form of items. All further analyses in this section of the instrument were conducted based on the described factors.

Procedures

The research was conducted using the paper and pencil method, where the content of items and visual design of the questionnaire had been tailored to students in the 9 to 14 age group. In each school, particular teachers were assigned to explain the questions to the students based on the instructions provided and to be available for additional clarifications. The data collected was analysed with the SPSS for Windows software. Basic descriptive statistical parameters were calculated for all variables. As described previously, in the part of the instrument relating to the perception of specific aspects of CLIN and learner strategy exploratory factor analysis was conducted using the principal component method. The reliability of the obtained factors was assessed using Cronbach's alpha coefficient. An analysis of variance and t-test were used to test the hypotheses.

3.2 Results and interpretation

3.2.1 Learners' perception of CLIN

The answer to the question whether students notice CLIN between the languages they are learning and how they perceive those occurrences is obtained from students' estimates of their perception of CLIN at the general level of language systems and the mean values of factors in the area of perception of specific aspects of CLIN.

Regarding the perception of CLIN at the general level (Table 3), a great number of students report that the languages learned never help them in learning other languages. Here, there is an evident quantitative difference between a large group of participants who do not perceive the support of L2 and L3 when learning L1 (43-50%) and a group which does not notice the support of L1 when learning L2 and L3 (around 36%), i.e. the support of one FL in learning another FL (26-33%). The occasional assistance of L1, L2 and L3 in learning other languages is reported by approximately one third of the participants. On the other hand, approximately one-third of the participants also estimate that in learning German or English as L2 or L3, the other language of this FL pair often or almost always helps them (30% vs. 35%), which is similar to the findings of Woll (2018), and Hofer and Jessner (2019). The same number of participants also find that their L1 helps them in learning both FLs (35%). Opposite that, a notably smaller number of participants reported significant support of FL in learning L1.

Table 3. Perception of CLIN at the general level in %

	Support for learning Croatian		Support for learning English		Support for learning German	
	E	G	C	G	C	E
never (1)	43.2	49.5	36.1	32.5	35.6	26.4
occasionally (2)	38.7	34.4	29.9	34.9	27.0	37.4
often (3)	10.3	11.5	15.3	22.4	21.8	24.9
almost always (4)	7.8	4.6	18.7	10.2	15.6	11.3

C=Croatian, E=English, G=German

A relatively high proportion of students who do not notice the possible support of one language when learning other languages leads to the conclusion that many learners do not use or are not aware of the multilingual potential that is at their disposal. However, it is observable that with FL, approximately a third of the participants perceive occasional, or frequent and very frequent, support from the other FL, which seemingly reflects the psychotypological factor of experiencing English and German as more mutually alike, compared to Croatian. Those findings are in line with previous research findings (see Cenoz and Gorter, 2022) that stress the subjective experience of the closeness of language systems as an aspect that influences CLIN.

When it comes to learners' perceptions of specific aspects of CLIN, the mean values in Figure 1 show that respondents occasionally (M≈2) notice positive and negative CLIN as well as CLIN among peers. It seems that the balance in the perception of supporting and inhibiting CLIN in personal processes of learning and the use of

languages as well as noticing such occurrences among peers can be interpreted as favourable groundwork for the targeted development of cross-linguistic connections in teaching. However, from the aspect of glottodidactics, these results are disappointing as they imply that learners notice links between languages only sporadically and that the potentials of CLIN as support in MLA are neither used nor developed systematically in teaching.

Figure 1. Perception of specific aspects of CLIN – mean values of factors
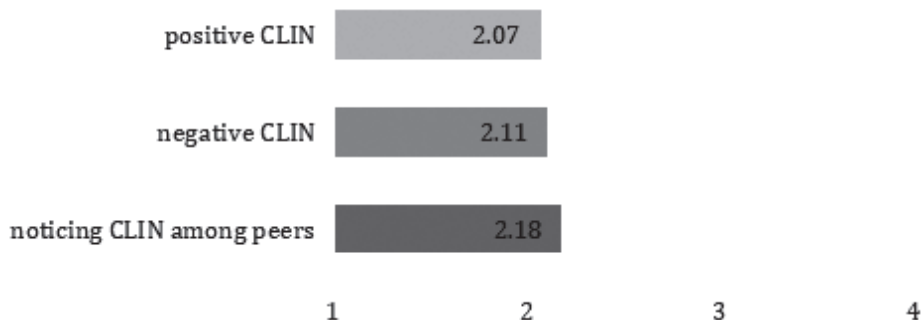
3.2.2 Use of learner strategies

A somewhat altered distribution was established in the area of learner strategies in the context of MLA. Students report frequent use of social strategies (M=2.7) and frequent noticing of specific teaching methods regarding cross-language linking (M=2.6). However, strategies for vocabulary acquisition are applied only occasionally (M=1.6) (Figure 2). It seems that in the process of MLA, students significantly rely on support from interpersonal strategies which include peers and/or teachers, and they are less inclined to use strategies demanding their independent engagement. That could suggest that learner's autonomy is not sufficiently being developed in teaching, i.e. that language education is insufficiently directed towards preparing students for lifelong language learning.

Figure 2. Learner strategies – mean values of factors
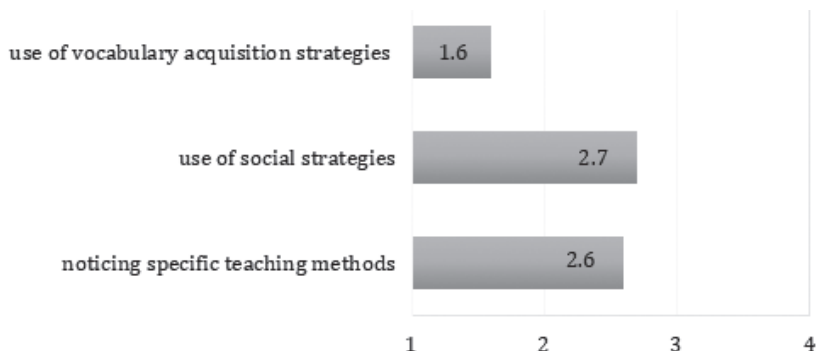
3.2.3 Relationship between the perception of CLIN and learner strategies

Regarding the relationship between the perception of CLIN on the one hand and learner strategies and use of language on the other, Pearson's correlation coefficient (Table 4) shows significant correlations between these two tested components. Similar to the findings in previous research presented by Hufeisen and Jessner (2018), students who frequently notice specific aspects of CLIN use learner strategies more frequently in MLA, and vice versa. Notably, we highlight the correlation between learners' strategies for vocabulary acquisition and the perception of positive CLIN, social strategies and the perception of negative CLIN and noticing teaching methods and noticing CLIN among peers. These correlations indicate the pronounced role of transfer at the lexical level in forming cross-linguistic connections and suggest the compensatory role of social strategies in avoiding negative CLIN. The positive relationship between noticing specific teaching methods and noticing CLIN among peers indicates that students may focus attention on incentives that come from their partners in learning and communication. These results may point not only to the close relationship and interdependence of both tested segments of language learning awareness in MLA but also suggest the need for fostering their synergy in language teaching.

Table 4. Correlation between specific aspects of CLIN and learner strategies

	positive CLIN	negative CLIN	noticing CLIN among peers
Strategies for vocabulary aquisition	.474**	.333**	.237**
Social strategies	.306**	.350**	.182**
Noticing teaching methods	.411**	.352**	.341**

3.2.4. The influence of length of studying FL on the perception of CLIN and use of learner strategies in MLA

Hypothesis 1 regarding the length of studying FLs on the perception of CLIN and the use of learner strategies was tested through an analysis of variance. Statistically significant differences between participants in the perception of CLIN at the general level was established only for the assistance of German in learning Croatian and English.
Compared to students in other grade levels, students in grades 4 and 6 more frequently find German to assist in learning English (Figure 3). In addition, grade 6 students more frequently find German to assist in learning Croatian as well (Figure 4).

Figure 3. Perception of assistance of German in learning Croatian by grade level
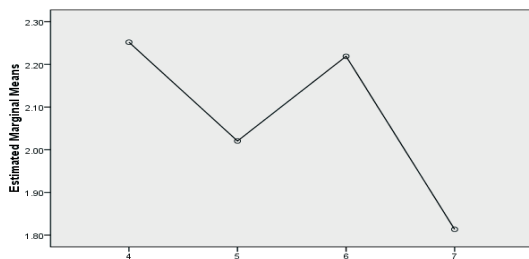
df	F	p
3	3.988	.008

Figure 4. Perception of assistance of German for learning English by grade level
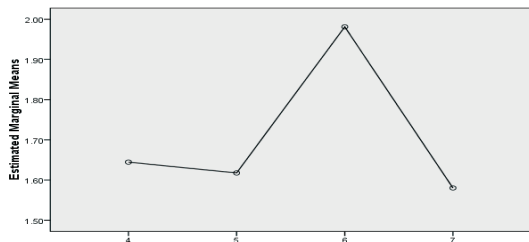

df	F	p
3	5.068	.002

The explanation for the established results of grade 4 and grade 6 students can be found in the *Teaching curriculum for primary school* (MZOŠ 2006),[5] which defines very similar topics for German as FL1 and English as FL2, and vice versa. Furthermore, students systematically encounter FL2 for the first time in grade 4 and the initial impression of numerous similarities with FL1 are rather strong, particularly regarding vocabulary. The pronounced perception of assistance of German in learning Croatian in grade 6 is understandable considering the numerous links in the grammatical content of the two subjects (MZOŠ 2006). These findings point to the importance of having curricular coherence of language subjects for a more holistic language education of students. Otherwise, as the presented results show, growth of students' language learning awareness in MLA cannot be expected to correlate with years of learning.

In support of this interpretation, we point to the complete absence of statistically significant results regarding the length of learning FLs on learners' perception of specific aspects of CLIN and only one statistically significant indicator of that influence on learner strategies. A statistically significant difference in the area of strategies was established only with respect to noticing teaching methods (Figure 5) in favour of students in grades 5 and 6 who more frequently notice teaching activities of cross-language linking.

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5   At the time of the research, the *Teaching curriculum for primary school* (MZOŠ 2006) was in effect.

Figure 5. Noticing specific teaching methods with respect to length of study

df	F	p
3	6.753	.000
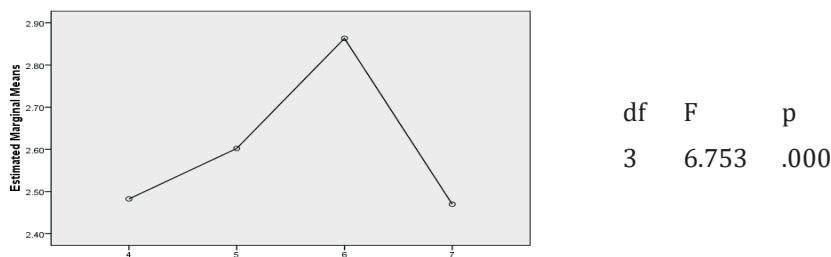
Students in grade 6 dominate also in this aspect of language learning awareness in MLA. It is possible that the abovementioned relatedness of content within the curriculum coincides with learners' growing cognitive maturity, making them more ready for the use of cross-linguistic connections in MLA.

From the results presented, it is evident that H1, which assumed that the length of learning a foreign language affects learner's perception of CLIN and the use of learning strategies and language use, has not been confirmed.

3.2.5 The influence of the order of learning FLs on the perception of CLIN and the use of learner strategies

Hypothesis 2 regarding the influence of order of learning FLs on the perception of CLIN and the use of learner strategies was tested using t-tests. Statistically significant differences between students with German, or English as FL1, were established solely with respect to some components of the perception of CLIN in the direction of more intensive influence of the German language. In the segment perception of CLIN at the general level, this implies noticing the support of German in learning Croatian (t=-1.983, p=.048). It is interesting that the direction of CLIN in this case is moving from FL to L1. Thus, in addition to the objective similarities in the morphology and syntax of both languages, we can also assume a possible correlation with the more cognitive approach to teaching the German language, namely the earlier introduction of grammatical concepts in German language teaching in comparison to Croatian language teaching (MZOŠ 2006).

A statistically significant influence of German as FL1 was established in two segments of the perception of specific occurrences of CLIN as well. Students who learn German as FL1 more frequently notice inhibiting occurrences of CLIN (t=-2.089, p= .037) and phenomena of CLIN among their peers (t=-2.469, p=.014).

These results show that students with German as FL1 have a somewhat more developed awareness of the role of CLIN at the general level and in specific aspects of MLA. The established differences between students with either German or English as FL1 might point to the possible differences in the process of learning and teaching German, not only in the sense of the previously mentioned more pronounced cognitive approach, but also in more frequent cross-language linking.

This interpretation should be observed in the context of a significantly reduced exposure of students to the German language in comparison with their mother tongue Croatian and ubiquitous English, which leads both teachers and students to more frequent reliance on familiar elements from other languages for the purpose of the easier acquisition of German.

However, the complete absence of statistically significant differences in the frequency of using learner strategies in MLA between students with either German or English as FL1 not only indicates that H2, regarding the influence of the order of learning foreign languages, has not been confirmed, but also suggests that learning and teaching German as FL1 does not significantly differ from learning and teaching English as FL1 in this regard. This finding suggests shortfalls in the systematic development of specific learner strategies in FLT.

4. Conclusion

Research of the perception of CLIN and learner strategies in MLA among circa 450 young L3 learners (age 9-13) shows that students perceive the supportive role of languages of their multilingual system in MLA with pronounced variation in intensity. In contrast to the occasional noticing of specific aspects of CLIN, learner strategies are used more frequently. Despite this contrast in the frequency of perception of specific aspects of CLIN and the use of strategies, a significant correlation of those two aspects of language learning awareness in MLA was established, thus confirming the interdependence of their development.

The results imply that, although part of the students in general retain their monolingual modus, L3 students in primary school apply some components of language learning awareness in MLA and undoubtedly possess the potential for developing such awareness. However, they do not develop it, nor do they use it optimally. Additional support for reaching such a conclusion comes from the finding that the perception of CLIN and the use of learner strategies does not reveal an expected growth with years of learning FLs. In that respect, this research cautions for the more systematic and intense development of learners' language learning awareness in all language subjects, in particular FLT, in order to use learners' multilingual potential for the purpose of optimizing the learning process.

Furthermore, insights into the pronounced role of German as FL1 in the process of developing language learning awareness in MLA might warn of the importance of a more cognitive approach of MLA with emphasis on cross-language linking. They also might point to the advantages of the order of FL learning which begins with the language to which students are less exposed to in their everyday lives and in that sense suggests a review of the prevailing order of learning English as FL1.

The research findings clearly indicate the need for improving specific segments of language education. Systematic integration of developing language learning awareness in FLT should primarily focus on raising awareness of the possibilities of the transfer of language knowledge and learning experience in MLA. This implies applying appropriate teaching methods for developing cross-linguistic connections and learner strategies and encouraging students to discover and apply their multilingual potential autonomously. The precondition for efficiently carrying out

such principles of multilingual didactics in teaching practice calls for curricular coherence between language subjects at the national and school levels, followed by supporting teaching materials and the development of relevant teacher competences in initial and continuous teacher education.

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Tables

Table 1. Sample breakdown with respect to grade attended and foreign language learned as FL1

Table 2. Factor saturations and distributions of individual items after applying Direct Oblimin rotation to the section of the instrument regarding language learning awareness in MLA

Table 3. Perception of CLIN at the general level in %

Table 4. Correlation between specific aspects of CLIN and learner strategies

Figures

UČENIČKE STRATEGIJE I PERCEPCIJA MEĐUJEZIČNE INTERAKCIJE U UČENIKA J3 DJEČJE DOBI: EMPIRIJSKA STUDIJA U OSNOVNOŠKOLSKOJ NASTAVI STRANIH JEZIKA

Sažetak

Na temeljima psiholingvističkih spoznaja o interakciji među jezičnim sustavima višejezičnika te uvida u ključnu ulogu svjesnosti o ovladavanju jezicima za razvoj višejezičnoga sustava učenika J3, rad se bavi uporabom učeničkih strategija i percepcijom međujezičnih poveznica. Prikazuju se rezultati empirijskoga istraživanja na opsežnome uzorku učenika osnovnoškolske dobi kojima je hrvatski J1, a engleski odnosno njemački J2 i J3. Osnovni je nalaz istraživanja da učenici J3 u učenju i uporabi jezikâ primjenjuju obje komponente svjesnosti o ovladavanju jezicima, no rezultati također upućuju na zaključak da se taj višejezični potencijal u osnovnoškolskoj nastavi jezikâ ne koristi i ne razvija na optimalan način.

Ključne riječi: jezično obrazovanje, međujezične poveznice, osnovna škola, svjesnost o učenju jezika, učeničke strategije, višestruko ovladavanje jezicima