

The role of Latin in multilingual learners' strategies

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Abstract

Research on third language acquisition and multilingualism found consistent evidence that metacognitive and metalinguistic awareness are crucial for the enhancement of different kinds of language learning strategies in multilinguals. In this article attention is directed to the difference in strategy deployment between participants with and without Latin in their repertoire as well as to the role and contribution of Latin in multiple language learning. The data used for the study stem from the longitudinal, large-scale LAILA project (Linguistic Awareness in Language Attriters) conducted at the University of Innsbruck in which young adult learners were asked to answer questions in relation to a text in a hitherto unknown language. The combination of quantitative and qualitative analysis of the think-aloud protocols show a strong tendency for advantages of those multilingual learners with Latin in their repertoire. The paper also discusses challenges of multilingualism with Latin within a modern school context.

Keywords: Third language acquisition, multilingual strategies, Latin, multilingualism with Latin, dynamic model of multilingualism, complexity theory, multilingual teaching

Abstract

In der Forschung zu Drittspracherwerb und Mehrsprachigkeit gibt es hinreichend Evidenz für die Bedeutung von metakognitivem und metalinguistischem Bewusstsein bei der Entwicklung von verschiedenen Arten von Sprachlernstrategien. In diesem Artikel richtet sich unser Augenmerk sowohl auf den Unterschied in der Strategieanwendung zwischen TeilnehmerInnen mit und ohne Latein in ihrem Sprachrepertoire als auch auf die Rolle und den Beitrag von Latein beim mehrsprachigen Lernen. Die Daten für die Studie stammen vom longitudinalen, großangelegten LAILA (Linguistic Awareness in Language Attriters; Sprachliches Bewusstsein beim Sprachabbau) Projekt, durchgeführt an der Universität Innsbruck, bei dem junge erwachsene LernerInnen Fragen zu einem Text in einer ihr damals unbekannt Sprache beantworten. Die Kombination von quantitativer und qualitativer Analyse von Lautdenkprotokollen ergaben starke Tendenzen zur Vorteilhaftigkeit für mehrsprachige Lernende mit Latein in ihrem Repertoire. Der Artikel diskutiert auch Herausforderungen für eine Mehrsprachigkeit mit Latein in einem modernen schulischen Kontext.

Schlüsselbegriffe: Drittspracherwerb, mehrsprachige Strategien, Latein, Mehrsprachigkeit mit Latein, dynamisches Modell der Mehrsprachigkeit, Komplexitätstheorie, mehrsprachiger Unterricht

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Introduction

In the past decades, research on language acquisition has shown an increased interest in strategic new information processing both within second language acquisition (SLA) and third language acquisition (TLA). Ever since Bialystok and her collaborators (e.g. 2001, 2005, 2009) demonstrated in their influential work that speakers of more than one language show a heightened cognitive advantage, it was inferred that these learners would display a higher capacity also in problem solving. Research on TLA and multilingualism found consistent evidence that metacognitive and metalinguistic awareness are crucial for the enhancement of different kinds of language learning strategies in multilinguals (Jessner, 2006; Moore, 2006). Kemp (2001) and Klein (1995), for instance, found that multilingual learners are more efficient in decoding the grammatical structure of another language by using various grammar learning strategies (see also Jessner & Török, 2017).

The present study forms part of the recent longitudinal, large-scale LAILA project (Linguistic Awareness in Language Attriters) conducted at the University of Innsbruck. This paper informs the reader first on the theoretical perspective from which it was conducted, i.e. the dynamic systems and complexity theory (DSCT) applied by Herdina and Jessner (2002) in their *Dynamic Model of Multilingualism* (DMM). It further illustrates the ongoing dispute on the role played by Latin in language instruction and in the development of metalinguistic abilities in its learners. The focus of the paper lies on the analysis of strategy use in multilingual learners who tackle various problem-solving tasks on a text in an unknown language. Attention is directed to the difference in strategy deployment between participants with and without Latin in their repertoire as well as to the role and contribution of Latin in multiple language learning. The paper hints at future challenges of multilingualism with Latin within a modern school context.

1. Key features of a DMM perspective

The present investigation was conducted from a holistic systemic approach which characterizes the dynamic systems and complexity theory (DSCT) perspective adopted by Herdina and Jessner (2002) in their *Dynamic Model of Multilingualism* (DMM). This model was the first to introduce the M(ultilingualism)-factor as the major emergent property in a dynamic multilingual system. This property is responsible for the catalytic or accelerating effects in TLA at individual level as well as for the continuous changes of quality in the system itself. It enables the multilingual learner to acquire and develop skills, abilities and proficiencies in ways which a monolingual learner cannot. These skills are manifold and comprise competences related to language and its typology as well as abilities not only related to language, such as sociocognitive skills used in language learning, language management and maintenance. The resulting advantage that a multilingual learner has over a monolingual peer in learning an additional language is traceable especially in the case of typologically related languages.

Numerous studies confirming this qualitative change (catalytic effect) in experienced language learners indicate that a heightened level of metalinguistic awareness (henceforth MLA) represents the underlying emergent property of a multilingual's cognitive system. It not only facilitates the interaction within the complex, dynamic systems, but also makes it possible in the first place (Török & Jessner, 2017, p. 4). MLA is the most distinguishing emergent quality in a multilingual system. It is the "ability to focus attention on language as an object in itself or to think abstractly about language, and, consequently, to play with or manipulate language" (Jessner, 2006, p. 42). Jessner (2008, p. 275)

defines it as “a set of skills or abilities that the multilingual user develops owing to her/his prior linguistic and metacognitive knowledge.”

Another emergent property in a multilingual system, closely interwoven with MLA, is crosslinguistic awareness (henceforth XLA) which “can be defined as the awareness (tacit and explicit) of the interaction between the languages in a multilingual’s mind; metalinguistic awareness adds to this by making objectification possible” (Jessner, 2008, p. 279; Jessner, Megens & Graus, 2016, p. 8). Based on the Tyrol study XLA “is described as (a) tacit awareness shown by the use of cognates in the supporter languages (mainly in the use of combined strategies) and (b) explicit awareness in the case of switches that are introduced by meta-language.” However, both properties interact and are “difficult to disentangle” (Jessner, 2006, p. 116). This is the reason why Jessner treats XLA as one aspect of multilingual awareness rather than as an independent phenomenon. The contact of more languages in a multilingual’s psycholinguistic system leads to crosslinguistic interaction (henceforth CLIN) which in the DMM is defined as “the interplay of two or more language systems”. It is an umbrella term for all existing transfer phenomena and includes transfer and interference as well as codeswitching and borrowing. CLIN phenomena have both inferential and synergetic effects, that is they work on both the linguistic and the cognitive level of multilingual learning and use.

2. Latin as a supporter language

Exploration on the cognitive aspects of bi- and multilingualism has become a major research topic over the past years. After the development of the concept of multicompetence by Cook (e.g. 2012), numerous scholars have engaged in investigations into the nature of L2 users and their cognitive qualities as being different from those of monolinguals (see Cook & Wei, 2016; Jessner, 2017). Evidence from multilingualism research seems to indicate that multilinguals have a benefit over monolinguals as they have a set of metalinguistic and metacognitive strategies and languages at their disposal to which they can resort in multilingual situations and learning experiences (e.g. Kemp 2007). The object of the following discussion is whether a classical language like Latin can play a beneficial supporting role in multilingual language acquisition. But some general information on Latin and its role in the development of other European languages shall be offered beforehand.

2.1 Historical perspective

Latin had been the language of international communication, scholarship, science and the Church for centuries and had therefore gained a permanent place in European school curricula. Originally, the language was only spoken in the city of Rome and its surroundings (Janson, 2004, p. 6), but with the expansion of the Roman Empire, it spread across the Italian peninsula, Europe and Asia. When in the 2nd century A.D. the empire reached its greatest extension, Latin had become the official language from Britain to the Euphrates River (T.M. Green 2008, p. 9). Its contact with local vernaculars had given birth to many regional variations that later developed into many of today’s European languages (Teske, 1970, p. 6), thus making Latin a valuable basis for modern language learning. Although it is commonly considered a “dead” language, it still represents the key to reading works of fundamental importance for the Western culture in the original. It furthermore forms the basis for neologisms in academic terminology and has become increasingly popular in sophisticated journals, discussion groups, magazines and broadcasting programs (Leonhardt, 2009, p. 1). Moreover, it is still present in

Romance and other languages as well as in internationalisms (Kuhlmann, 2009, p. 39). Also Pöckl et al. (2017, p. 14) stress the Latin origin of the Romance language family when they claim that these languages are a form of Latin passed on from one generation to the next. Traces of Latin influence can also be detected in Germanic languages. English, for instance, has numerous words with Latin roots as it has been affected by Latin both directly through the language itself, as well as indirectly through a Romance language like French (T.M. Green, 2008, p. 11; Jessner, 2006).

2.2 The role of Latin in modern language teaching

Due to the resulting commonalities between the aforementioned languages, scholars dedicated to the study of Latin like Teske (1970, p. 9), not surprisingly, highlight the importance of Latin instruction. Through the analytical comparison of concepts and lexical expressions in Latin texts with the learner's native language, the awareness for the native language is raised and the development of language awareness is triggered. Vossen (1969, pp. 155ff.) emphasised the extraordinary effects this classical language exerts on its learners. He argues that the act of translating Latin texts requires special metalinguistic abilities and thought processes that are not necessary in the translation from English or from other languages (ibid. 155), as the complex Latin structures cannot be tackled with an intuitive approach, but demand a logical and systematic strategy. Consequently, the pupils' cognitive faculties, their abilities to think abstractly and creatively as well as their ability to grasp connective elements within the text are trained by the translation of Latin texts. Moreover, this translation activity requires the learner's involvement with language as a system and the separation of form and meaning, thus training his/her metalinguistic abilities (156f.).

Similarly, Töchterle (2007, pp. 237-241) also stresses the beneficial role of Latin in language learning and its positive impact on the development of metalinguistic awareness. He describes the close relationship between Latin and all Romance languages regarding lexical and grammatical aspects (ibid. 238ff.) as well as the influence of Latin on English (ibid., p. 239f.). As a result of the specific way in which Latin is taught, the learner acquires advantageous abilities for language learning such as the ability to think and talk about language, the ability to look for the exact definition of words and phrases and the ability to analyse the structure and function of language. All these abilities enhance the development of metalinguistic awareness (ibid., p. 241). As a further gain of Latin classes, the German association of classical philology² DAV adduces the improvement of the pupils' reading skills. They hold that the instruction of Latin trains the learner's ability to scrutinise and deal with a text critically.

Other scholars, however, claim that the instruction of classical languages like Latin brings no immediate advantage to language learners in today's school context. They advocate the abolition of Latin classes to give more room to the teaching of living modern languages (Vossen, 1969, p. 154). Pupils may even perceive the instruction of a language that is not used in daily life as a burden. Haag & Stern (2003) argue that due to their emergence from vulgar Latin, Romance languages display major discrepancies in their grammatical structures compared to classical Latin (ibid., 176). Hence they presume that the knowledge of another Romance language can be more beneficial for the acquisition of a typologically related language than the knowledge of Latin itself (ibid.). Other

² http://www.altphilologenverband.de/index.php?option=com_content&view=article&id=44:was-macht-den-heutigen-lateinunterrichtunverwechselbar&catid=20:latein-schule&Itemid=84 (retrieved March, 12, 2018)

opponents of Latin instruction posit that the cognitive advantages praised by some scholars could be acquired equally well via different routes (Vossen, 1969, p. 154). Abstract thinking could, for instance, be trained in the context of maths lessons (*ibid*).

More recent investigations on benefits and drawbacks of the instruction of Latin have led to contradictory results. Lebek (2004) implemented a study on the reading skills of university students with regard to complex texts in German. His investigation revealed that learners with Latin in their repertoire outperformed their peers who had received no Latin instruction (110f). Lebek attributed this difference to the skills that Latin texts demand from their readers and which consequently develop in their learners (113). The outcome of an investigation conducted by Haag and Stern (2003), on the other hand, seems to prove the contrary. The scholars examined the performance of fifty native speakers of German when translating a German text into Spanish after the completion of a Spanish course. All of them had L2 English. Half of the testees' L3 was French, the other half had Latin as their L3. Results of the study demonstrated that participants with L3 French made fewer grammar and vocabulary errors than their fellow students with L3 Latin (177f). Furthermore, the scholars detected negative effects stemming from crosslinguistic interference ("false friends") with Latin (178) and concluded that the "[k]nowledge of Latin is probably not an optimal preparation for modern language learning" (174).

A contribution to shed light on the ongoing dispute on the effects of Latin on the development of metalinguistic skills comes from the LAILA study, as explicated below. In this investigation, the attention of the researchers was directed, *inter alia*, on learners with Latin in their repertoire. It was analysed whether these learners differ in their strategy deployment from their peers when confronted with a language task on an unknown language.

3. Strategies in multilingual learners

Whereas research on strategies has a long tradition in the study of second language acquisition its application in the field of multilingualism, that is on more than two languages in contact, is rather recent and still rare (see Jessner & Török, 2017).

Attention to strategies in multilinguals was first given by Ramsay (1980) in her investigation on language learning styles in adults. She found evidence for the advantage that multilinguals have over their monolingual counterparts when they learn a new language that stems from their increased strategy use. Similar findings resulted from studies conducted by O'Laoire (2001, 2004) investigating the strategy use of Irish learners of German and French. He found that the metalinguistic knowledge which was conferred on learners of L3/L4 by the study of Irish was significant both in contexts of over- as well as of underachievement.

In her analysis of how learners evaluate their own multilingualism, how they perceive the interaction of their different languages, and whether they think that their different languages help or hinder them when speaking, listening, understanding or writing their different languages, Hufeisen (1998) found that strategies were viewed to be very helpful for learning a new language and that multilingual learners employed them in various kinds of tasks in their foreign language production and comprehension.

More recently this has been supported by scholars like Kemp (2007) and Psaltou-Joycey and Kantaridou (2009). Kemp (2007) investigated the use of grammar learning strategies in 144 multilinguals who had learnt between two and 12 languages concluding that the more languages the

participants knew, the greater the number and frequency of the applied grammar strategies was. This trend increased when the languages learnt were more than three. This was confirmed by Psaltou-Joycey and Kantaridou (2009) who conducted a study at two Greek universities testing 1,555 Greek university students learning foreign languages. The findings indicated a) that the trilingual students used more strategies more frequently than their bilingual peers, especially those strategies that promote metalinguistic awareness, and b) that more advanced trilingual students made more frequent use of cognitive and metacognitive strategies. A large-scale study carried out by Mitits (2015) with over 1,200 participants attending junior high schools in Thrace also revealed that early adolescent language learners can transfer their language learning strategies from L2 Greek to L3 English and vice versa.

Jessner's Tyrol study (2006) focused on lexical retrieval strategies in multilingual adult learners of English as a third language. For this purpose, strategies were analysed with respect to form and function, thereby distinguishing between German-based, Italian-based and combined strategies regarding form; in regard to function they were categorized as a) strategies compensating lexical insecurity or deficiency, b) strategies deployed in the search for lexical alternatives and c) facilitation, simplification and/or avoidance strategies. Jessner's findings are in line with Kellerman and Bialystok (1997, p. 37), who claim that a multilingual user resorts to strategic behaviour in order to overcome a linguistic deficit. Problem-solving strategies and/or compensatory strategies form a crucial part of multilingual learning, in particular when learners are confronted with an unknown or new language (Jessner & Török 2017), as discussed in the following study.

4. The LAILA Study: Evidence for the positive role of Latin in multilingual learning

A unique approach in the exploration of language strategies and metalinguistic awareness in L_n learners is offered by the large-scale research projects LAILA (Linguistic Awareness in Language Attriters) and LAILA-BICS (Language Awareness in Language Attriters in Bilingual Contexts). Both studies were carried out by the DyME-research group headed by Jessner at the University of Innsbruck.³ They were implemented in high schools in Tyrol (Austria) and South Tyrol (Italy) in 2011-2016. The aim of both longitudinal projects was to investigate the development of language skills and metalinguistic abilities in young multilingual adults. The current study focuses on the role played by Latin in multilingual learning and strategy use and was conducted within the framework of the LAILA project in the first fieldwork phase between February and May 2012.

Participants in the study were Austrian high school students in their final year. To qualify for the investigation, subjects were required to have learnt at least two modern foreign languages in the course of their schooling. Latin as a classical language was not included in that count. The first testing session took place some weeks before the students' school-leaving exam; the second testing was carried out 12-15 months later. In both meetings, test takers were asked to complete a questionnaire and to perform some written and oral tasks in their foreign languages.⁴ To facilitate participation, the first testing session was held within the school precincts. While the written part was usually done

³ <http://www.uibk.ac.at/anglistik/dyme> (retrieved March, 4, 2018).

⁴ University of Innsbruck. <https://www.uibk.ac.at/projects/laila/about/projectdescription.html.en>. (retrieved Jan., 5, 2018).

with the whole class at once as a paper-and-pencil version or online, the oral interviews were carried out individually.

The sample of subjects for the present study was selected from participants in the LAILA project and was divided into two groups. Group A consisted of learners of English and Italian; group B included students who, in addition to English and Italian, had also learnt Latin. It was implemented in different types of five upper secondary schools in Tyrol. For a better comparability of data, only students with a minimum amount of formal education in English (at least 8 years), Italian (at least 3 years) and Latin (at least 4 years) were selected. The initial sample consisted of 60 participants randomly chosen out of a pool of students with the afore-mentioned prerequisites. The original number was reduced to 50 as some subjects had either refused to take part in the first oral session, turned out to have grown up bilingually or have learnt additional languages at school on a voluntary basis. Thus, 30 participants formed the English/Italian group (Group A) and 20 the English/Italian/Latin group (Group B). All of them were German native speakers. Gender was unevenly distributed within the groups as the number of female participants exceeded male participants in both groups by far (ratio 70:30). The age range was relatively homogenous. Since in group A the average age amounted to 18.3 (with a standard deviation of 0,69 years) and in group B to 17.9 (with a standard deviation of 0,59 years), age-dependent influences on the results are not to be expected.

After completion of several written tasks, participants were asked to perform some oral tasks in individual sessions. The amount of the latter depended on the number of languages pupils had learnt in formal education. Each session lasted approximately 45 minutes per person and was audio and video recorded. Each task was introduced by an interlocutor who followed a script to prevent irregularities concerning input. This was particularly important in the task relevant for the present study, for which participants were given a text in a hitherto unknown language (Romanian). They were instructed to read through it and simultaneously infer information on the content as well as on the language. To gain insight into the processing and production mechanisms which students applied when decoding the text, the introspective method of the Think Aloud Protocol (TAP) was adopted, which meant that they had to verbalize their thoughts while solving the assignment. After a familiarization with the method in a prior metalinguistic task, the interlocutor reminded them to think aloud also in this task, but remained otherwise unobtrusive. After the students had finished the assignment, he/she asked them in retrospect to reflect on the task using a set of questions to elicit further information about the strategies they had applied. Although the subjects were free to decide in which language they wanted to express their thoughts and were explicitly encouraged to use all the languages at their disposal, all of them used their native German.

For the LAILA project, the DyME team had developed a questionnaire that comprehensively investigated the participants' language learning biographies, their proficiency, aspects of motivation and anxiety, etc. For the present study, only information on the number of languages participants had learnt and the period of their formal language education was used.

The instrument adopted for the problem-solving task relevant for this study consisted in a short, authentic hotel description in Romanian together with a cue card with questions regarding its content. Romanian was chosen for two reasons: Firstly, because it was assumed that it was unknown to the students, and secondly, because it belongs to the Romance language family and would consequently offer an adequate number of words which can be deduced from Latin and other Romance languages (Italian in this case). Many Romanian words in the text can also be inferred from

German and English. A hotel description was chosen as a familiar genre to allow all participants to use also their world knowledge to decode the unknown text.

The collected oral data had to be transcribed for analysis. Although subjects were familiar with High or Standard German, they used their native German dialects to verbalize their thinking. In the transcription of their output, the spoken dialects were changed into Standard German to ensure the participants' anonymity and to facilitate the comparability of data.

The two research hypotheses for this study are the following:

Hypothesis 1: Being multilingual, all participants show a high level of metalinguistic awareness, which manifests itself as they actively use their entire pool of languages in search for crosslinguistic similarities.

Hypothesis 2: Differences regarding problem-solving strategies can be observed between students learning Latin and those who do not, with the learners of Latin showing a more analytical and elaborate approach.

For their investigation, the LAILA-team had developed a coding scheme in which it was possible to mark the same statement with several categories when more than just one strategy had been applied. Figure 1 shows the number of instances of implicit or explicit problem-solving strategies, categorised as C1-C12 for both groups (for a more detailed explanation of the categories see Pargger, 2013, pp. 95ff.). While two categories (C1, C2) stand out since they constitute nearly 40 per cent of all statements, the next five categories in the ranking reach approximately equal numbers. Among them are categories indicating CLIN (C3 and C4) as well as explicit statements about problem-solving strategies (C7 and C8). Internationalisms (C11) and the nature of the text (C6) play a minor role in decoding the text.

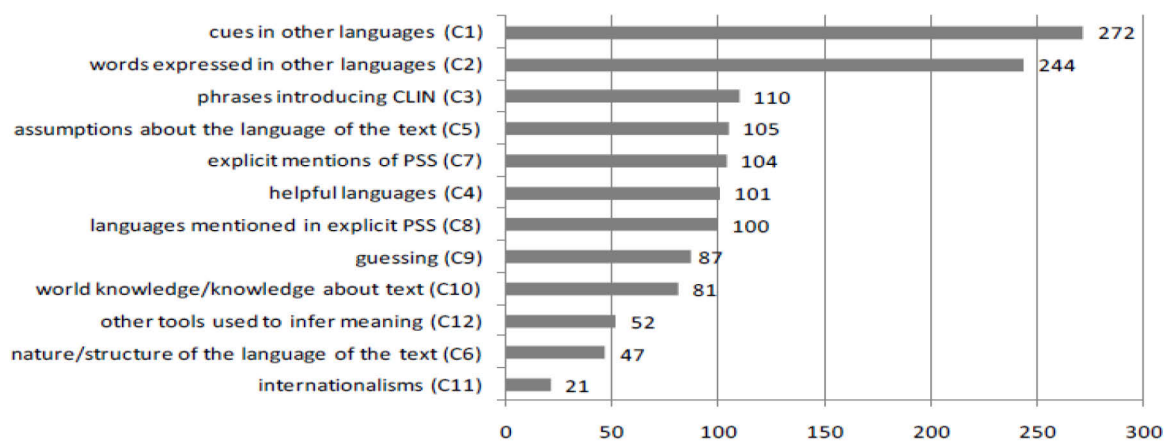


Figure 1: Instances of implicit and explicit problem-solving strategies

(number of statements, N = 1,324 statements)-(PSS = problem-solving strategies)

Before comparing the findings of the two groups, the general data of the first four categories shall briefly be outlined as it indicates CLIN.

C1: Cues in other languages (N=272): The most frequent strategy is the usage of cues in other languages. This category indicates crosslinguistic interaction and hints at two other categories, namely at references to the helpful language itself (C4) or at statements about cognates in other

languages (C2) or at both. Figure 2 illustrates the share of the languages used in crosslinguistic search. Participants either named the language itself or referred to a word in a specific language.

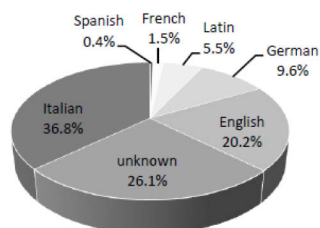


Figure 2: Languages used in crosslinguistic consultation

(percentage of statements, N = 272 statements)

With 36.8 per cent, Italian was the language that was most frequently referred to. Since Romanian and Italian are both Romance languages, this tendency is hardly surprising. Interestingly, the percentage of instances in which test takers turned to Germanic languages is relatively high. A possible reason for this behaviour might be the phenomenon of psychotypology (Kellerman, 1983). Participants may have perceived English to be more closely related to Romanian than German and therefore chose English in their search for similarities. The foreign language effect presents another likely explanation for their behaviour. Studies report that multilinguals who try to solve a problem in a foreign language tend to consult other foreign languages rather than their mother tongue (see Meisel 1983). 88,6 per cent of all references to cues in other languages led to successful results.

C2: Words expressed in other languages (N=244): This category also refers to CLIN activities and is thus closely related to the category described above (C1). It comprises statements in which the participants tried to establish crosslinguistic connections mentioning a word in a language that was neither in the text, nor was a German translation of it, e.g. “transport in commun, community die Bev- also so öffentliche Verkehrsmittel” (B_09). Such statements were often given in combination with the first category (cues in other languages). Numbers written in digits also triggered the use of other languages. Most participants voiced the numbers in their native language, but some also read these numbers out in Italian indicating the close relationship between the two languages as well as their current language mode (see Grosjean, 2001). There were also instances in which participants used English to express their thoughts and comments.

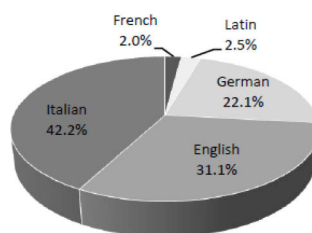


Figure 3: Words expressed in other languages

(percentage of statements, N = 244 statements)

C3: Phrases introducing crosslinguistic activities (N=110): These remarks introduce a language switch and stand in close connection to the categories C1, C2 and C4. Examples are statements such as: “camera sing- single, das ist ja wie Italienisch camera singola” (A_09), “aeroportul klingt wie, ähm, Flughafen, wie airport” (A_14).

C4: Helpful Languages (N= 101): This category refers to languages helpful for the decoding of the Romanian text. Remarks of this category were often found together with other statements expressing crosslinguistic activities. Figure 4 illustrates the percentage distribution of all languages mentioned within this category:

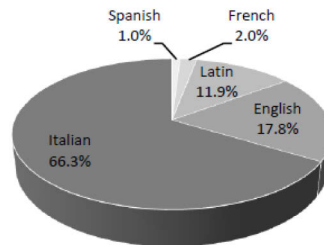


Figure 4: Remarks about helpful languages
(percentage of statements, N = 101 statements)

With 66,3% Italian was the most helpful tool in this respect, followed by English with 17,8% which was mainly used to translate the Romanian words *disabilitati*, *single*, *duble* and *situat*.

As Figure 5 shows, the categories which are the most frequent ones in the general data refer to CLIN and imply the existence of XLA.

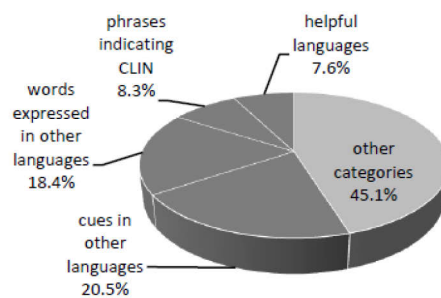


Figure 5: Statements referring to CLIN
(percentage of statements, N = 1,324 statements)
(dark grey areas depict categories including crosslinguistic activities)

Table 1 compares the strategies of learners without Latin in their repertoire (Group A) with those of Latin learners (Group B) giving the total number of statements, the proportional share of each category within the group as well as the average number of statements per person.

	Group A (30 subjects)			Group B (20 subjects)		
	statements	%	Ø per person	statements	%	Ø per person
<i>cues in other languages (C1)</i>	140	19.4%	4.7	132	21.9%	6.6
<i>words expressed in other languages (C2)</i>	130	18.0%	4.3	114	18.9%	5.7
<i>assumptions abt. the language of the text (C5)</i>	69	9.6%	2.3	36	6.0%	1.8
<i>guessing (C9)</i>	64	8.9%	2.1	23	3.8%	1.2
<i>explicit mentions of PSS (C7)</i>	57	7.9%	1.9	47	7.8%	2.4
<i>world knowledge/knowledge about text (C10)</i>	54	7.5%	1.8	27	4.5%	1.4
<i>languages mentioned in explicit PSS (C8)</i>	48	6.7%	1.6	52	8.6%	2.6
<i>phrases introducing CLIN (C3)</i>	44	6.1%	1.5	66	10.9%	3.3
<i>helpful languages (C4)</i>	43	6.0%	1.4	58	9.6%	2.9
<i>other tools used to infer meaning (C12)</i>	30	4.2%	1.0	22	3.6%	1.1
<i>nature/structure of the language of the text (C6)</i>	28	3.9%	0.9	19	3.2%	1.0
<i>internationalisms (C11)</i>	14	1.9%	0.5	7	1.2%	0.4
total	721	100%	24.0	603	100%	30.2

Table 1: Instances of implicit and explicit problem-solving strategies of both reference groups

(N = 1,324 statements)

(PSS = problem-solving strategies)

Regarding the top categories, no significant differences can be observed. For both groups, statements about cues in other languages (C1) represent the category with the highest results, followed by statements mentioning words expressed in other languages (C2). Yet when analysing the data of the individual categories in more detail, differences can be detected between the groups, such as exemplified for **C1 (cues in other languages)**.

Whereas Group B extensively used English to generate a translation (24.2 per cent of all statements), the percentage of statements indicating CLIN but not hinting at any specific language was significantly lower for group B (18.2 per cent). But Latin was used relatively rarely as a helpful tool for decoding the text. Only 11.4 per cent of all statements of group B refer to Latin. In absolute numbers, this means that 11 out of 20 subjects never mentioned Latin as a source for crosslinguistic consultation. In comparison, only three participants of group B never mentioned Italian in this context. Learners of Latin and Italian turned rather to the living language. These findings confirm observations made by Müller-Lancé (2006: 467) who investigated the role of Latin in the process of deducing meaning from Romance-language vocabulary. He noted that the majority of testees used Latin very rarely to infer meaning. This might be attributed to the different routes of learning the two languages. While in Latin classes the language is mainly used in a passive/receptive way concentrating on the analysis and translation of texts, Italian is taught as a means of communication. It might be assumed that the Italian vocabulary was closer and more readily at hand than the corresponding Latin words. Müller-Lancé (2006: 467f.) further assumes that the knowledge of Latin helps the students to acquire Italian more easily and that they are therefore able to apply their

Italian knowledge more readily to the task. While the observed crosslinguistic activities are ascribed to Italian, Latin nevertheless may have an indirect influence on the inferencing process.

This tendency was also found in **C2 (words expressed in other languages)** where both groups often focused on the same words but used either Italian or English to establish a connection. Group A mentioned words like *situato*, *storico*, *singolo*, *centro* or *comune* as useful cognates and group B referred to situated, historical, single, centre or community. Only six statements (made by six different people) included Latin words, equating to 5.3 per cent of all statements for group B.

C4 Helpful Languages: On average 1.4 statements of this category were recorded per person in group A; in group B statements amounted to 2.9 per person in group B.

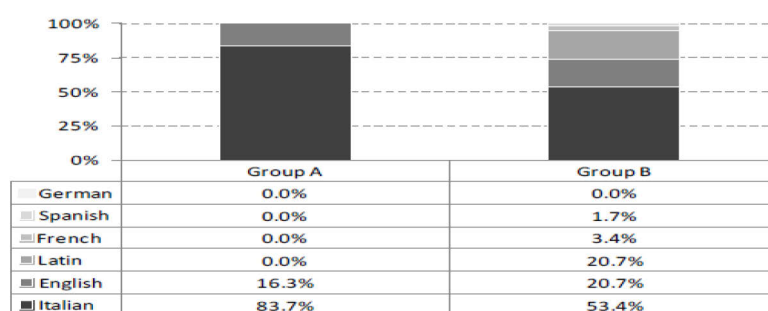


Figure 7: Remarks about helpful languages

(percentage of statements, N = 101 statements)

While members of group A mentioned mainly Italian as their supporter language (88.7%), test takers of group B deployed their entire language repertoire more extensively. They repeatedly mentioned Latin and English as possible sources for cognates and even thought about the potential of languages they do not speak (French and Spanish) (see Table 2)

	Group A	Group B	percentage difference
	Ø per person	Ø per person	
<i>cues in other languages (C1)</i>	4.7	6.6	+40.4%
<i>words expressed in other languages (C2)</i>	4.3	5.7	+32.6%
<i>phrases introducing CLIN (C3)</i>	1.5	3.3	+120.0%
<i>helpful languages (C4)</i>	1.4	2.9	+107.1%
CLIN total	11.9	18.5	

Table 2: Differences in CLIN categories for both reference groups

(average number of statements per person, N = 727 statements)

C5 Assumptions about the language of the text: All participants correctly assumed it was a Romance language. Members of group A saw similarities of the language mostly with Italian; members of group B also recognised its relation to Spanish.

C7 Explicit mentions of problem-solving strategies and **C8 Languages mentioned in explicit problem-solving strategies** have to be analysed together as both types of remarks were made after the completion of the actual task when the participants were asked how they had managed to come up with suitable translations. The following metalinguistic statement “aber man kann das mit mit Latein und Italienisch gut ableiten“ (B_06) may exemplify this. As Figure 8 shows that both groups

mentioned Italian and German within this context, Group B also claimed to rely on Latin. They attributed a greater significance in CLIN to Latin than to English. This behaviour supports results of the Tyrol study in which Italian was used as a supporter language mainly in the case of Latin origin target words, thereby relying on the typological relatedness of the high proportion of Romance elements in the English language which stem from Latin (Jessner, 2006, pp. 101f.).

The analysis of the CLIN categories, however, reveals that English was in fact the language which was used the most after Italian. A similar observation can be made with German. Group B did not mention German in their explicitly stated strategies as a helpful language although a closer look shows that it had been used in this respect. The participants' perception does not seem to accord with their actual line of action. The same can be observed when both groups claim that English and German have been not been helpful, and some members of group B also added Latin in this context.

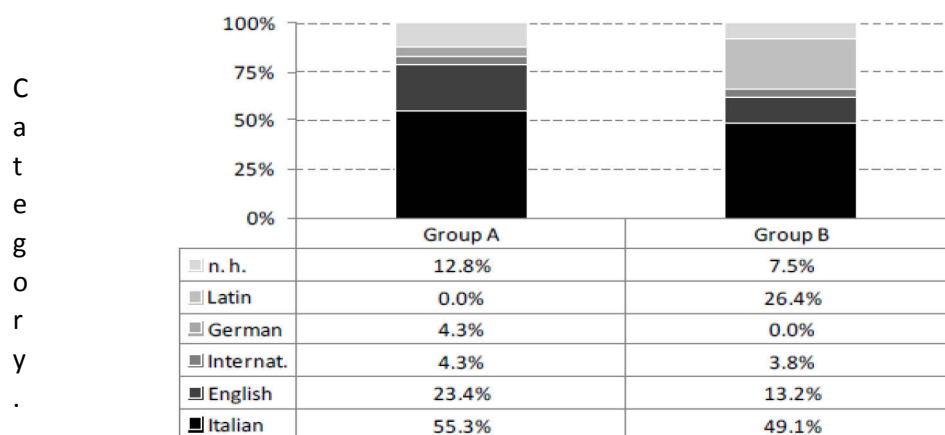


Figure 8: Languages in explicitly mentioned problem-solving strategies (percentage of statements, N = 100 statements) - (n. h. = not helpful)

C9 Guessing discloses one of the major discrepancies between the two groups. Over 70 per cent of all instances of guessing were generated by participants of group A, with an average of 2.1 remarks per person. Group B, in contrast, used this strategy comparatively rarely with an average of 1.2 statements per person (see Table 3). This finding indicates a clear difference between the two groups in their strategy use confirming the assumption made in hypothesis 2. Group A relied more often on guessing than the learners of Latin. For both groups the majority of guesses was unsuccessful.

	Group A		Group B	
	statements	Ø per person	statements	Ø per person
successful	8	0.3	3	0.2
unsuccessful	56	1.9	20	1.0
guessing	64	2.1	23	1.2

Table 3: Successful and unsuccessful instances of guessing (average) number of statements, N = 87 statements)

Summing up, multilingual learners of both groups rely on all the languages at their disposal and are well-equipped with a set of strategies to decode an unknown linguistic system. Their high level of metalinguistic and crosslinguistic awareness enables them to successfully overcome knowledge deficiencies in a novel language. The think-aloud protocols used in this study allowed an insight into the consciousness levels in multilingual processing and strategy use.

As suggested by the quantitative and qualitative analysis of the multilingual strategies of the data, the learners of Latin differ in their strategy use in various respects:

- a. They use a wider range of languages in their crosslinguistic search.
- b. They are more experienced in crosslinguistic activities and they resort to guessing less frequently.
- c. They are better at analysing and voicing their strategies and thought processes and therefore display a more elaborate approach in solving the task.

In terms of the two hypotheses this means that both hypotheses have been confirmed, that is both groups display a very high level of multilingual awareness when exploring Romanian as an unknown language and the Latin learners' metalinguistic and metacognitive abilities appear to be more advanced in comparison.

These findings indicate that learners of Latin seem to be more accustomed to analysing and objectifying language and to reflecting on multilingual strategies than their peers who have had no Latin instruction. Although the former used their Latin knowledge relatively rarely in their crosslinguistic search, they showed a high level of MLA and XLA by extensively applying successful problem-solving strategies while taking advantage of the interaction between their language systems.

Further studies with a higher number of participants would be necessary to consolidate the above mentioned results which only allow an interpretation in terms of strong tendencies. Interesting revelations on the role of Latin in a multilingual mind could result from investigations on participants with different language combinations in their repertoire with a focus on thresholds concerning qualitative changes in learner behavioural patterns.

5. Multilingualism with Latin in the classroom

Latin has retained its traditional importance in many of today's school curricula despite the increasing competition between the instruction of modern and classical languages (see Siebel 2017, p. 82). This competition originates partly in the EU language policy 'mother tongue plus two' which aims at enabling EU citizens to speak two languages besides their native language. As the practical applicability of a classical language is less evident than the speaking competence in a language of communication, the usefulness of its instruction still needs to be justified. Siebel therefore suggests increasing theoretical and empirical investigation to position Latin didactics within modern multilingual teaching methodology and to develop a new profile for the subject together with concrete curricular and cross-curricular didactical concepts. The existing interface between the didactics of classical and modern languages can be exploited without changing the traditional identity of the subject. As pointed out by Siebel (2017, pp. 53ff.) a holistic psycholinguistic approach such as the DMM, which models the development and interaction of all language systems in a multilingual mind, can provide the theoretical basis for multilingual teaching concepts with Latin, as it

treats all language systems equally and does not exclude languages not needed for communication. The M-factor, the major emergent property in a dynamic multilingual system, is responsible for the catalytic effects in TLA and comprises linguistic and metacognitive knowledge which are acquired also in the Latin classroom.

Confirmation for the beneficial effects of Latin in a multilingual educational setting comes also from the results of the pilot study on the MKT-3 (*Metalinguistischer Kompetenztest Teil 3*). The test battery, based on the validated Italian metalinguistic ability test TAM-3 developed by Pinto and Iliceto (2007), assesses the metalinguistic abilities in the learners' L1 (Candilera et al., 2015). Its German version was tested on 44 German native speakers from two different high schools in the bilingual province of Bolzano (Italy) (Jessner et al., 2016). Students with Latin in their curriculum outperformed their peers who had received no Latin instruction in items regarding comprehension, acceptability and figurative language. Their advantage may stem from their heightened XLA due to an additional modern language in their school curriculum as well as from the strategies they had learnt in Latin lessons to approach lexical, morphosyntactical and metaphorical elements. The knowledge of Latin was certainly advantageous in items that referred to a word of Latin origin or which contained a play on words using a Latin expression.

Evidence for the positive effect of the classical language in an L2 educational setting is described by Siebel in the chapter on Latin and DaZ (Deutsch als Zweitsprache) [German as L2] (*ibid.*, pp. 95ff). The scholar quotes Müller-Lancé who claims that Latin instruction can be even applied as a kind of universal preparatory course ("universelles Propädeutikum") (*ibid.*, p. 107) as it provides common starting points for the language of instruction as well as for additional languages, as pointed out by Wandruszka already in 1986 (see also Jessner, 2006). Hallet and Königs (2010) claim that Latin instruction *per se* is multilingual since Latin texts are taught and analysed in the language of instruction.

Beneficial effects due to prior language knowledge including Latin can be detected also in a TLA context. Evidence for it was found in the investigations conducted by Hinger and Spöttl (2002) who had implemented research results from TLA and vocabulary acquisition in an intervention. They had taught simultaneously Spanish, English and French to German-speaking students who studied English as their first and Spanish or French as their second subject at university level.

The role of Latin as a supporting linguistic resource in the language classroom was already discussed in the applications of the DMM (Herdina & Jessner, 2002, p. 161). The training of multilingual awareness with the support of Latin can be applied to any (European) language classroom. Although more adequate teaching material needs to be produced, some valuable efforts have been made as shown in Nagel (2000).

6. Reflections on the future of Latin in the curriculum

A growing number of studies on multilingualism and strategy research clearly gives evidence for cross-lexical search and an extensive use of multilingual strategies. To create synergies and new qualities both in the learners and the teachers, according to Jessner (2017) a multicompetence approach to language learning emphasizes the prominent role of multilingual awareness. To enhance cross-linguistic awareness and transfer of strategies, common language curricula have been designed that break with the traditional separation of languages in TLA and propose a joint work of language teachers (see Allgäuer-Hackl et al., 2016).

In a multilingual educational context, the instruction of Latin should no longer play a marginal role. For its relatedness to other languages in the curriculum as well as for the metalinguistic nature of its instruction, Latin should be valued as a relevant resource in multilingual teaching. As evidenced in the present study, the focus on crosslinguistic awareness in the Latin classroom can help develop and enhance strategic competences in multilingual learners. Learners can draw lifelong advantages from the training of inferencing strategies necessary for the decoding of unknown words also in non-language subjects. Siebel (2017) proposes to apply the scales for language proficiency from the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001) to Latin. Their application to a classical language may lead to a change in perspective on the future role of Latin in a modern multilingual teaching scenario.

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