

Abstract:

The Bilingual Effects in Third (or additional) Language Acquisition: the Role of Metalinguistic Awareness

The research conducted on the general effects of bilingualism on cognitive and metalinguistic development can be divided into two different phases demonstrating, respectively, its negative and positive effects. The “additive effects” phase started in 1962, when the most influential work on bilingualism was published. Peal and Lambert’s contribution (1962), *The Relation of Bilingualism to Intelligence*, paved the way to a number of important studies questioning the validity of previous research focused on bilingual disadvantages. Currently, the general view shared by academics in different fields including applied linguistics, psycholinguistics and foreign language education is that bilingualism fosters cognitive development and metalinguistic abilities.

The last decade has witnessed a considerable increase in interest in the bilingual advantage in third language acquisition (TLA). In the past, TLA was generally included either in the field of bilingualism or in the field of second language acquisition (SLA). Nowadays, despite the similarities between TLA and SLA, a growing number of researchers claim that second and third (or additional) language acquisition need to be considered as two distinct processes for a number of both linguistic and cognitive reasons. For instance, it has been argued that while in second language acquisition there are only two possible routes to follow, i.e. simultaneous and consecutive acquisition, in TLA the number of routes increases. Moreover, among the many other factors to take into account in TLA studies, the cognitive and linguistic profile of the language learners is considerably different as in SLA they are monolinguals at the initial state of language learning whereas in TLA they are already bilinguals.

The positive effects of bilingualism in TLA have related the advantages evident in bilingual learners to the influence of bilingualism on cognitive development and, specifically, metalinguistic awareness (MLA) (Bialystok & Barac, 2012, Cenoz 2003, Cenoz & Genesee 1998, Cummins 1978, Jaensch 2009, Jessner 2006). Although it has been acknowledged that MLA is strongly affected by literacy and grammar related activities, only a few studies have attended to the context and method of acquisition of the bilingual learners’ L2 to

account for the positive effects shown in TLA (e.g. Cenoz 2013, Sanz 2000, Thomas 1988).

The different context of acquisition is particularly relevant for the purpose of the current research since it allows to distinguish between two types of bilingualism: i.e. primary and secondary. Hoffman (1991), referring to the definitions provided by Houston (1972), states that people who become bilingual through systematic instruction are defined as secondary bilinguals whereas who acquires the languages in an uninstructed way, from people around them, can be called natural or primary bilingual. This same dichotomy is defined by Adler (1977) as “achieved/ ascribed bilingualism”.

The aim of the present study is to examine whether bilinguals’ level of both implicit and explicit MLA in L2 is related to their attainment in third or additional language acquisition over and above their proficiency in L2, amount of formal instruction received, context of acquisition, and age of acquisition of L2. To demonstrate this hypothesis empirically, it was necessary to investigate the correlation between implicit and explicit MLA on one hand, and ability to learn an additional language at the initial stage on the other.

42 adult bilinguals, aged between 20 and 70, with German as an L2, with different levels of instruction received, and different age of acquisition of the L2, were assessed in their ability to learn an additional language at the initial stage through an artificial language task (Llama-F, Meara 2005). The study was conducted with participants living in Scotland and England. The majority of them had English as a first Language. 9 participants out of 42 had an L1 different from English: i.e. Italian, French, Chinese, Polish, Hungarian, Slovenian, Spanish, Dutch.

The level of implicit MLA was assessed with a Self-Paced Reading (SPR) task focused on sensitivity to case and agreement ambiguity in German L2 (Gerth et al., 2017). The level of explicit MLA was assessed with a task of Grammatical Knowledge (Roehr, 2008b). The influence of the other background variables, i.e. number of languages mastered, proficiency, age of acquisition of each language etc., was recorded with a Language Experience and Proficiency Questionnaire (Leap-Q: Blumenfeld & Kaushanskaya, 2007).

Correlations, ANOVAs, and multiple regression analyses were conducted to explore the relationship between performance in the artificial language task and various potential predictors: years of instruction, explicit MLA, implicit MLA, overall proficiency, age of acquisition, and level of instruction in German L2. In particular, the results indicate that the

level of explicit MLA has a significant positive regression weight ($\beta = .660$, $t = 4,461$, $p < .000$), suggesting that bilinguals with better explicit MLA skills are also expected to perform better in TLA, after controlling for the other variables in the model: i.e. level of proficiency and amount of formal instruction received in German L2.

A one-way between groups ANOVA with post-hoc tests was run to explore the impact of different sub-levels of explicit MLA, as measured by the explicit MLA test in German L2, on the performance in the Llama-F. Participants' scores in the explicit MLA test were grouped according to their ability to underline, correct, and explain the grammatical mistake. There was a statistically significant difference at the $p < .05$ level in Llama-F scores for the first and third group [$F(2,39) = 4.7$, $p = .01$], suggesting that participants with higher levels of explicit MLA in an L2 (i.e. the ones who were also able to provide a grammatical explanation for the detected mistake) performed significantly better in subsequent language learning. The effect size, calculated using eta squared, was .19 which in Cohen's terms (1988) is classified as a large effect ($> .14$). Post-hoc comparison using the Tukey HSD test indicated that the mean difference for group 1 and 3 is 29.54 (Sig: .01).

A Spearman's Rank Order Correlation analysis was performed to assess the relationship between the level of implicit MLA as measured by the SPR task and language attainment, as measured by an artificial language task (Llama-F). The results show a non-significant relationship between the two variables [$r = .209$, sig .184] suggesting that the level of implicit MLA developed in a second language cannot be considered as a predictor for a better performance in TLA.

The main findings suggest that explicit MLA also developed in an L2 is the most important factor which assists and enhances the process of learning additional languages over and above implicit MLA, level of bilingualism (i.e. proficiency in an L2), age of acquisition of L2. Moreover, the study also demonstrates that bilinguals performed better in the artificial language task of grammatical inference the more languages they knew (specifically, more than three) and the more explicit their level of grammatical MLA was. The influence of the other aforementioned mediating factors such as participants' age and age of acquisition of German L2 was also controlled through partial correlation analyses. The results indicate that neither of them significantly affected the strength of the relationship between explicit MLA and performance in Llama-F.

Thus, the findings allow to confirm the main hypothesis of the study: that is, in order to benefit from the advantages of bilingualism when learning additional languages, it is necessary to develop explicit MLA also in an L2, in addition to other abilities gained through the experience of language learning, specifically, broader linguistic repertoire and better learning strategies.