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Aspect semantics and ESL article use

Abstract: ESL learners often show great variation in article use. This study proposes that article use can be improved if the semantic feature (non)boundedness is introduced into ELT. This study argues that articles carry highly relevant information that is crucial, together with a number of other elements, for the signalling of aspectual values in English. It is argued that the signalling of aspectual values is the primary role of articles and that if ESL learners receive instruction on this role, they may learn how to signal aspectual values correctly, but also improve their article use thanks to a greater awareness of articles. The paper reports on an experiment conducted to test ESL learners' response to such instruction and concludes that incorporating (non)boundedness into ESL instruction is both reasonable and necessary.

Keywords: (non)boundedness, aspect, articles, (in)definiteness, ELT

1 Introduction

The question as to why learners of English as a second language (ESL learners) make errors in article use at almost all proficiency levels has received a lot of attention for many decades and by many researchers. Some of the key issues addressed have been the communicative role of articles, the impact of L1 transfer on learners' performance, and the ways in which it could be improved. What previous research on these key issues has in common is that it has looked at articles as markers of [±definiteness] only. Relying on the theory of compositional aspect ('CA'), the paper suggests that the primary role of articles is to signal [±boundedness] and that explicit instruction on this feature can help ESL learners improve article use. A study has been conducted to check these suggestions. The material is organised as follows: Section 2 provides an overview of previous research on ESL article use, but also presents a number of studies on L2 acquisition in general. Section 3 is an introduction to aspect in English and Montenegrin, our participants' L1. Section 4 gives details about our study and

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presents its results. Section 5 includes a discussion of the results and suggestions for future research. Section 6 presents our conclusions.

2 Previous research on articles and ESL article use

The literature shows the English articles are surrounded by controversy. For example, although they are regarded as one the most frequent words in English (Master 1990, Master 1992; Leńko-Szymańska 2012), ESL learners may have little awareness of articles in spoken discourse because they are not stressed or pronounced clearly enough (Master 1990). Also, articles rarely cause misunderstanding when misused in spoken language (McEldowney 1977; Master 1990; Trenkic 2001, Trenkic 2007; Master 2007), which is why they are often seen as structures of little communicative value and of secondary importance (Master 1997). This, together with the fact that there are many languages that function perfectly well without articles, lends support to some views that their role in the expression of [±definiteness] is only peripheral and that the primary role of articles is to make the processing of nominal arguments more efficient (Hawkins 2004; Trenkic 2008, Trenkic 2009). These and many other controversies have generated a lot of research on articles. In the next two subsections, a short review is made of most relevant previous research on article semantics and ways of improving ESL article use.

2.1 Previous research on article semantics

Articles, alongside other devices, are used to mark referents as [+definite] or [-definite] depending on whether they are uniquely identifiable by both the speaker and the hearer in a given discourse situation. In English, if the conditions for unique identifiability are met, the definite article is used, and if they are not, the indefinite article is used, which leads to a conclusion that [±definite] and [-definite] are not incompatible (Ionin et al.; Trenkic 2008, Trenkic 2009; cf. Hawkins 1991; Lyons 1999). The feature [±specificity] is also used in the description of article semantics. It is expressed by both the definite and indefinite articles, and, therefore, article choice in English is based on [±definiteness], not on [±specificity]. It has been argued that all learners, irrespective of their L1, have access to these features through universal grammar. However, if their L1 is based on a different feature than their L2, they are expected to initially make errors in article use but improve over time as they receive sufficient input (see

Ionin 2003; Ionin et al. 2004 on Article Choice Parameter and Fluctuation Hypothesis). Master (1990) felt the four features are difficult and complicated to use and designed a binary schema which was based on classification and identification as two semantic features that are superordinate to [±definiteness] and [±specificity]. He suggested this distinction could be used as a simple pedagogical tool, something that should be presented to learners before the linkage to articles is explained (Master 1990: 468). In this binary schema, classification includes the features [-definite] and [-specific], marked by the indefinite and zero articles, as in (1).

(1)   *A man is walking down a road.*
      (Master 1990: 471).

Identification, on the other hand, includes the features [+definite] and [+specific], marked by the definite article, as in (2).

(2)   *It's the old man who is carrying some wood.*
      (Master 1990: 471).

The proposed schema shows Master sees the definite and indefinite articles as incompatible. However, unlike most other researchers who have addressed the absence of articles mainly in the context of omission errors, Master not only includes the zero article in his schema, but also explores its rich polysemy (Master 1992, Master 2003, following Chesterman 1991).

It seems that research findings on article semantics have not been sufficiently used to enrich and update grammars and ESL coursebooks. It has been reported that explanations are not detailed enough (Ionin et al. 2004; Snape et al. 2016), and that they even get shorter at higher proficiency levels (Vujic 2015). This is not to say that all problems of ESL article use would be solved if grammars and research were connected better, but grammars are certainly an important source of knowledge for any ESL learner. A lot of researchers have continued to make efforts to understand errors made by ESL learners and help them improve article use.

2.2 Previous research on how to improve ESL article use

A lot of emphasis has been on ESL learners' omission errors. To explain some of these errors, Robertson (2000), for example, formulated five principles, one of which explains the difficulties faced by learners in applying the rule that

[±definiteness] need not be marked if it can be recovered from the context. For example, they may omit *the* before *centre* in (3) because it is clear that the blue circle has only one centre.

(3)   *the centre of the blue circle*
       (Robertson 2000: 157–158)

To help learners select articles correctly, other researchers have prepared detailed guidelines (McEldowney 1977; Master 1990, Master 1992, Master 2003, Master 2007). Further, a lot of emphasis has been placed on the need to measure both correct and incorrect ESL article use (Parrish 1987; Master 1992, Master 2003) since otherwise, we may never find out that a learner who supplies the indefinite article in 90 % of the time in obligatory contexts, also supplies *a* in non-obligatory contexts, such as *I need an information* (Parrish 1987: 362). These issues have generated a lively debate and research, but the question of whether correct article use can be taught and improved is as yet unresolved.

Pica (1985) reports a relatively limited effect of instruction as opposed to learning outside of classroom, while Master (1986), Berry (1991) and Ellis (2002), among others, report a positive effect. It must be noted, however, that Master (1990) openly states he is not certain whether the improvement came as a result of the learners' newly acquired knowledge about article semantics or of their greater awareness of articles in general following the instruction (see also Schmidt 1990; Wigglesworth 2005 on attention and noticing). The findings of some more recent studies on the effect of article instruction are also contradictory, but point to a number of factors that may contribute to positive instruction effects.

Lopez (2017) measured the effects of instruction on specificity and definiteness provided to [-art] L1 learners and found no significant effects. Snape and Yusa (2013) also tested the explicit knowledge of [-art] learners following the instruction on definiteness, specificity, and genericity and found positive effects, but only on learners' perception of articles. Umeda et al. (2019) focused on the effects of instruction on the same three features that was provided to [-art] learners over a longer period of time. They report an initial improvement, following which there was a gradual decrease in retention across the post-tests until, one year later, it regressed to pre-test levels. As for what factors seem to contribute to positive outcomes most, these scholars point to a higher overal proficiency in L1 (for learners to be able to understand these complex semantic concepts) and a longer intervention period. Umeda et al. (2019) argue that retention of explicit knowledge is possible only if ongoing instruction is achieved. That the language of instruction is also highly relevant is confirmed by Snape et al. (2016) who exposed their [-art] L1 highly intermediate to

advanced proficiency English learners to a longer intervention in learners' L1 and achieved positive effects of explicit instruction on generics.

Jiang (2004) points to a need to measure learners' implicit knowledge since, he argues, there is a huge discrepancy between learners' explicit and implicit knowledge. Using self-paced reading tests, Jiang proves not only that learners who did well in grammar tests performed poorly on tests assessing their implicit knowledge of the same meanings, but also that his Chinese L1 ESL learners performed much better on (verbal) subcategorization tests than on the plural morpheme tests since Chinese does not feature a number morpheme (Jiang 2004, Jiang 2007).

Jiang et al. (2011, 2017) draw on the research in psycholinguistics, Slobin's 'light relativity theory' (Slobin 1996), and general theory of linguistic determinism to develop the 'morphological congruency hypothesis'. They argue that learning an incongruent morpheme, i. e. a morpheme that is not grammaticalized in learners' L1, is difficult because this meaning is not routinely activated in learners' L1. Therefore, learners have to learn to activate the meaning expressed by the L2 morpheme (Jiang et al. 2017). Recall also Jacobson, who argued that when comparing languages, we must remember that they "differ essentially in what they must convey and not in what they may convey" (Jakobson 2000 [1959]:116). In other words, there are languages, such as English, that must convey [±definiteness], through articles and other devices, and those, such as [-art] languages, that may convey [±definiteness] through other devices, but need not. In the context of instruction in ESL article use and the 'morphological congruency hypothesis', this suggests that learners with a [-art] L1 who wish to acquire articles in a [+art] L2 first have to learn to automatically activate the semantic feature [±definiteness] since it is not automatically activated in their L1 (Jiang et al. 2017: 4).

The issues of the impact of cross-linguistic differences on L2 acquisition and what proficiency level it takes to override L1 negative transfer has been addressed in research on article use for decades already. The former issue is illustrated well by a study showing that [-art] L1 learners wrongly interpreted English articles as nominal modifiers and forgot to use an article when the position immediately preceding a nominal was already filled with an adjective. As a result, their article omission was much higher in Art+Adj+N than in Art+N contexts (Trenkic 2007). As for the latter, some answers are offered in a number of studies mentioned in this overview. Master (1997) and Ko et al. (2008), among others, suggest L1 influence usually decreases with increasing L2 proficiency. Master (1997) argues that [-art] L1 learners are generally one level behind [+art] L1 ESL learners but that this is true only initially, i. e. in "early approximations to the target language" (Master 1997: 218). He expresses some reservation at the same time and notes that errors in article use by [-art] L1 ESL learners may persist much longer than in the

case of [+art] L1 ESL learners and illustrates that with an example of a highly proficient ESL speaker with [-art] L1 who uses the zero article with a clearly identified referent (Master 1997: 220), as in (4).

(4)   *'I have to take *children to school'.*
       (Master 1997: 220)

It must be emphasised that even learners from [+art] languages have difficulties acquiring English articles. For example, although in one study a participant with Spanish L1, an [+art] language, performed similarly to [-art] participants and even failed to use the definite article in those contexts that require the definite article in both English and Spanish (Master 2003), in another study, Spanish L1 learners erroneously used definite plurals for generic meanings in English because that is acceptable in their L1 (Ionin and Montrul 2010). This only confirms that there is rarely a 100 % match in the semantics of any two linguistic systems even if they are highly congruent in many morphological markings (see many more examples of negative L1 transfer effects, such as Ionin et al. 2004, Ionin 2008; Zdorenko and Paradis 2008; Trenkic 2008; Ionin et al. 2013; Morales-Reyes 2016, among many others), but the general conclusion is that recovery from negative L1 transfer is possible (Ionin and Montrul 2010).

As demonstrated in the preceding review of the relevant literature, marking referents as [±definite] in L2 English remains a challenge for many learners. Although often regarded as peripheral (Hawkins 2004; Trenkic 2008, Trenkic 2009), the role of articles to mark [±definiteness] is still the basis of most research on article use. The zero article is often ignored and, if defined at all, it is defined as marking a referent as [-definite] and [-specific] (Master 1990). When it comes to instruction effects, positive outcomes are possible, but only if instruction is offered to highly proficient learners over a longer period of time and, if possible, in learners' L1. There is also evidence showing that L2 learners need to learn how to activate the meaning of incongruent morphemes (Jiang et al. 2011, Jiang et al. 2017).

One of our suggestions that is crucial for this study needs to be presented at the end of this section. Namely, article semantics should be described starting from a feature that is superordinate to [±definiteness] and [±specificity]. Using identifiability as a term often employed to define [±definiteness], the following description is proposed: i) if the referent is uniquely identifiable, the definite article is used, ii) if the referent is not uniquely identifiable, the indefinite article is used, however, both these referents are [+identifiable], and iii) if the referent is [-identifiable], the zero article is used (Trenkic 2008, Trenkic 2009, cf. Master 1990). Therefore, it is true to say that articles are there to announce that an NP is

coming (Hawkins 2004; Trenkic 2008, Trenkic 2009). More precisely, articles announce that an NP whose referent is [+identifiable] is coming, while the absence of articles announces that an NP whose referent is [-identifiable] is coming. The feature [±identifiability], or [±boundedness], as it is called in the subsequent sections of this paper, is central to the grammatical category of aspect. How this category, which is normally associated with verbs, is connected to articles and article use in English is the subject of our next section.

3 Aspect

The semantic feature [±boundedness] carries information on the temporal properties of verbal referents. If a referent is [+bounded], it means that the situation has reached its endpoint, and if a referent is [-bounded], the situation has not reached its endpoint. The feature is implemented differently in different languages.[1] In Romance languages, for example, the past tenses express this feature directly, Spanish has an additional marker, the reflexive clitic *se* (Nishida 1994), Finnish uses cases, while Swedish uses verb particles, but only as a peripheral device. As for Germanic and Slavic languages, in the distant past, aspectual features in both were directly expressed in the verb as a lexical entity. This means that verbs, in addition to their lexical meaning, included information on [±boundedness]. Recall some phrases in modern English, such as *eat up, drink up*, and so on, that show a tendency to signal [+boundedness]. Another example would be verbs such as *treat,* which is [-bounded] because it does not imply that the activity of treating has reached its endpoint, and *cure,* which is [+bounded] because it implies that the desired objective, the endpoint, has been achieved. Examples from German include *jagen* 'chase/try to catch' and *erjagten* 'catch' (Leskien 1919: 217). In Slavic languages verbal aspect has remained unchanged. In Germanic languages, as the verbal morphology simplified over time, a system of determiners developed to serve, among other things, the role of signalling [±boundedness] (Abraham 1997; Kabakčiev 2000). That is why in modern English, most verbs can be used to signal both [+boundedness] and [-boundedness] thanks to the role played by the articles, but also quantifiers, numerals, demonstrative and indefinite pronouns, among other bounding devices.[2] The definite and the indefinite article and other bounding devices are associated with [+boundedness], i. e. for an NP to be [+bounded],

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1 For a generative view of the calculation of aspect in English, Slavic and Romance languages and impact of quantification, see Sciullo et al. (2005).
2 To avoid repetition, a reference to articles in this paper will also include a reference to the other bounding devices.

it does not matter whether it is used with *the* or *a/an*. Their absence, or the presence of the zero article, is associated with [-boundedness]. In Subsection 3.1 we explain other key elements that have an impact on article-aspect interplay in English. In Subsection 3.2 we look at [±boundedness] in Montenegrin. In Subsection 3.3, we explain some of the complex aspects of form to meaning mappings between English and Montenegrin, but the focus remains on how [±boundedness] is signalled in English. Because there is no consensus on the terminology used for VP and sentence level aspectual interpretation[3] in the abundant literature on aspect, the terms [±boundedness] will be used for both levels for ease of following the explanations.

3.1 Aspect in English

This article-aspect interplay in English is known as compositional aspect. Its investigation began with the work of Verkuyl (1972, 1989, 1993) who developed Vendler's (1957) work on lexical aspectual classes. Vendler proposed a clear division between nonbounded states (e. g. *know* or *love*) and activities (e. g. *write* or *draw*), on the one hand, and bounded accomplishments (e. g. *write a letter* or *draw a circle*) and achievements (*kick* or *hop*), on the other, but it was Verkuyl (1989) who showed that [+boundedness] requires that both the internal and external arguments are [+bounded] and that the verb is not a state, while all other combinations result in [-boundedness]. This means that states can only be [-bounded], while activities, accomplishments and achievements are [±bounded], depending on their arguments. For example, *write* and *write letters* signal [-boundedness], and *write a/the letter* or *write the/two/some letters* signal [+boundedness]. Boundedness and nonboundedness are the result of a complex interplay between the temporal properties of the referent of the verb *write* and the temporal properties of the referents of the NPs *a/the letter* and *Ø letters*. Note that what makes a difference between [+bounded] and [-bounded] in the above phrases is mainly the articles. As for how exactly the bounded nominal referents bound the verbal referents, Verkuyl (1972: 59) explains that a specified argument, or a specified quantity of x, gives the "bounds of the temporal interval in question". The temporal bounds of the nominal referents are then imposed, or mapped, on the event denoted by the verbal expression.[4] Filip (2001) points to a difference

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3 Some of the pairs of terms used are: (a)telic vs (non)bounded; (non)bounded vs (im)perfective; (a)telic vs (im)perfective, etc.

4 Verkuyl's mechanism of bounding is also described as measuring out (Tenny 1994; Glasbey 1994), quantization (Krifka 1989), coercion (Moens and Steedman 1988) or mapping (Kabakčiev

between different types of referents. Singular count referents are bounded, as reflected in the singular count noun like *the sandwich* (or *a sandwich),* and have a bounding or quantization effect on the verbal referent, as in (5a), while mass or plural referents can be both bounded and unbounded. In (5b), because nouns *soup* and *blueberries* denote quantities whose boundaries are not fixed, the boundaries of the eating event are not fixed either (Filip 2001: 459), and these referents do not have a bounding effect on the verbal referent. As a result, (5a) is [+bounded] and (5b) is [-bounded]. Note that if *soup* and *blueberries* in (5b) were bounded by the definite article, (5b) would be [+bounded].

(5)   a. Mary ate the sandwich.
       b. Mary ate soup/blueberries.
          (Filip 2001: 458)

Although most English verbs can lend themselves to both aspectual interpretations, it is still possible to speak of a primary or a default aspectual reading of sentences in isolation. For example, most native speakers will agree that, taken in isolation, (5a) above, which includes an accomplishment verb and bounded arguments on both sides (all proper nouns are bounded), signals [+boundedness]. It would be lost if one or both arguments were replaced by non-bounded arguments. The boundedness of (1a) can be cancelled by a durative adverbial, such as *for X time*, by adding a clause to express a parallel action (e. g. a clause starting with *while*), but also by using the progressive form of the verb, as in (6). Note again that a non-progressive form can also yield [-boundedness] when the internal argument is a mass noun or a bare plural, as in (5b).

(6)   *Mary was eating the sandwich.*

This shows that [+boundedness] of a nonprogressive verb in English is cancellable, while [-boundedness] is non-cancellable, but only when it is directly expressed by the progressive or by the habituals *would* and *used to*. However, if the verbal referent is [-bounded], i. e. if the eating activity is incomplete, and its nominal referent is a bounded singular entity, the speaker has no other choice but to use the verb in the progressive form, as in (6) (see Comrie 1976; Smith 1983, Smith 1991/1997 on grammatical, or viewpoint, aspect).

There is a number of exceptions to these well-established regularities of CA, some associated with the semantics of verbs, and other with the pragmatics of a

2000), but for reasons of limited paper length we cannot go into the various significant differences that exist between the separate approaches.

communicative situation. First, some English verbs, such as *push* in (7), can yield imperfectivity in isolation in spite of having bounded arguments and a structure identical to (5a).

(7)   Mary pushed the cart.
       (Rothstein 2001: 140)

Second, in spite of Verkuyl's rules, it is wrong to assume that a sentence with a bare plural subject, as in (8), or a bare plural object, as in (9), will absolutely always yield [-boundedness].

(8)   Passers-by signed the appeal.
       (Kabakčiev 2000: 80)

(9)   Judith bought sandwiches.
       (Kabakčiev 2000: 325)

There are situations where *passers-by* in (8) are temporally bounded and mean *some passers-by*, not passers-by in general, and situations where *sandwiches* in (9) would mean *some sandwiches,* and the two sentences are then [+bounded]. However, the prototypical readings of (8) and (9) are, of course, [-bounded]. Other examples where plural agents do not yield generic sentences are situations where boundedness is signalled by an antecedent, by the topic position, or simply by the fact that speaker and hearer share an understanding of who is referred to and decide to omit the article (see Kabakčiev 1984; Lyons 1999), as in (10).

(10)   *Children found a bird.*
       (Kabakčiev 1984: 646)

As this short overview of CA in English has shown, the articles *a* and *the* have a key role in the signalling of [+boundedness], and the zero article has a key role in the signalling of [-boundedness]. Section 2 has shown that CA regularities have not made their way into research on article use by ESL learners.[5] As a rule, it is not described in grammars of English,[6] not mentioned in English

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5 But see Bulatovic (2013).

6 Huddlestone and Pullum (2005) and Downing and Locke (2006) are rare exceptions of grammars that recognize that English features aspect in the form of perfectivity and imperfectivity. A full description of the role of articles for aspect in English can be found in Kabakčiev (2017). See a review article on the treatment of aspect in English grammars, Bulatovic (forthcoming).

coursebooks, and not taught in schools and colleges.[7] With so much focus on the role of articles as markers of [±definiteness], it comes as no surprise that their role in signalling [±boundedness] is sidestepped even by articleless L1 teachers and researchers in this field (e. g. Zergollern-Miletic 2010; Vujic 2015; Zugic 2017).

It must be pointed out that SLA research on aspect is abundant, but few studies specifically target articles. The majority focus on the Primacy of Aspect Hypothesis and look into the interplay of lexical and grammatical aspects in the acquisition of tenses (Andersen and Shirai 1996; Bardovi-Harlig and Reynolds 1995 among many others; and Bardovi-Harlig 1999 for an overview of research). Slabakova (2001) studies the decoding of the telicity[8] ([+boundedness]) feature in L2 English by L1 Bulgarian learners and finds that beginning learners fail to take into account the object's cardinality (presence or absence of bounding devices) although their L1 has a definite article. Slabakova and Montrul (2003) conducted an experimental study on genericity and encoding of aspectual meanings by English L1 intermediate and advanced learners of Spanish and found they were able to conduct significant restructuring of form to meaning mappings required by aspectual morphology. These last words introduce well our next two subsections in which we describe briefly nominal determination and aspect in Montenegrin and explain the kind of significant restructuring that must take place in form to meaning mappings between Montenegrin and English and the role English articles play in it.

3.2 Nominal determination and aspect in Montenegrin

Montenegrin is without formal correspondents to English articles, but the semantic features of [±definiteness] can be expressed by other linguistic means, such as the numeral *jedan* 'one', and the indefinite pronoun *neki* 'some', among others,[9] as shown in (11a) and (11b).

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7 The remark about coursebooks and schools is made on the basis of the author's involvement in the selection of coursebooks for elementary and secondary schools. As for college level education of future teachers and translators, the remark is made on the basis of the author's involvement in curricular reform over the past six years. This process included a thorough comparative review of grammar syllabi.

8 Slabakova (2001: 136) distinguishes between [±boundedness] and [±telicity] and uses the former to mark potential bounds (to describe situation types), and the latter to mark actual bounds of a situation (viewpoint aspect) (see Depraetere 1995).

9 See Trenkic (2001) for an analysis of the means that Serbian uses to express semantic/ pragmatic definiteness. See also Katunar et al. (2013) on specificity markers in Croatia.

(11)　a. Pro-čit-a-o　　　　sam jedn-u　interesantn-u　knjig-u.
　　　　　pfv-read-pst-1sg　aux　one-acc　interesting-acc　book-sg;acc
　　　　　'I read one/an interesting book.'
　　　b. Pro-čit-a-o　　　　sam nek-u　　　interesantn-u　knjig-u.
　　　　　PFV-read-PST-1SG　AUX　some-INDF　interesting-ACC　book-SG;ACC
　　　　　'I read some/an interesting book.'

The numeral *jedan* 'one' and the indefinite pronoun *neki* 'some' are not obligatory in Montenegrin and can be omitted from (11a) and (11b) respectively without causing major changes in their propositions (see Trenkic 2001, Trenkic 2009). The indefinite article cannot be omitted in their English counterparts, as is shown in (12).

(12)　a.　*I read interesting book.

In Montenegrin, every single verb, with the exception of biaspectual verbs, expresses the feature [±bounded] directly. For example, the verb form *pročitao sam* 'read' in (11) is [+bounded] because the prefix *pro-* carries this feature and the verb directly expresses that the action of reading is complete, temporally bounded. The verb *čitao sam* 'read' is [-bounded]. Normally, no changes other than the change of the verb form itself can have an impact on the aspectual value of the verb. For example, the addition of duration or frequency adverbs to the perfective *pročitao je* 'read' in (13a) and (13b) respectively is not acceptable and cannot unbound the verb form *je pročitao* 'read'.

(13)　a. *Dječa-k　　　je　pro-čit-a-o　　　　knjig-u　　　dva mjesec-a.
　　　　　boy-SG;NOM　AUX　PFV-read-PST-3SG　book-SG;ACC　two　month-PL
　　　　　'The boy read a book for two months.'
　　　b. *Dječa-k　　　je　pro-čit-a-o　　　　knjig-u　　　često.
　　　　　boy-SG;NOM　AUX　PFV-read-PST-3SG　book-SG;ACC　often
　　　　　'The boy read a book often.'

However, there are some rare cases where [-boundedness] can be imposed on a perfective verb by a duration adverbial, as shown in (14a), as well as other cases, which are more frequent, where [+boundedness] can be imposed on an imperfective verb by a specific sentence pattern, as in (14b).

(14)　a. Dinosaurus-i　　　su　po-živje-l-i　　　　na Zemlji između　165
　　　　　dinosaur-PL;NOM　AUX　PFV-live-PST-3PL　on Earth　between　165
　　　　　i　　177　miliona　godina
　　　　　and　177　million　years
　　　　　'Dinosaurs lived on Earth for between 165 and 177 million years.'

b. Pije-m   kaf-u   i   ide-m.
   IPFV-drink-PR-1SG cofee-SG;ACC and IPFV-go-PR-1SG
   'I will have a coffee and leave.'

It has been argued in linguistics that the same mapping mechanism, already explained in Section 3.1, also works for Slavic languages but in the opposite direction: the properties of the verbal referent are mapped onto the nominal referents (see Kabakčiev 2000, Kabakčiev 2019, who sees these properties as temporal; Sciullo et al. 2005 for a generative perspective; see also Filip 1994, and Krifka 1989 on the homomorphism hypothesis). This means that in [-art] languages, the superordinate feature [±boundedness] is mapped from verbal referents to nominal referents and that when a perfective verb combines with a bare noun, the referent of the bare noun is understood as [+bounded]. The opposite applies to imperfective verbs. There are different views on this complex issue that we cannot address here, but they do not question the two main principles: i) in [-art] languages, [±definiteness] of nominal referents may but need not be marked, which is why they can function without articles, ii) in English, nominal referents must be marked with articles since they play one of the crucial roles in the signalling of [±boundedness]. It can be concluded, therefore, that it is the [±boundedness] role of articles that is primary, and their [±definiteness] role is secondary.

3.3 Form to meaning mappings between English and Montenegrin

The feature [±definiteness] is not grammaticalized in Montenegrin and is therefore not routinely activated (Jiang et al. 2011, Jiang et al. 2017). The feature [±boundedness] is routinely activated in Montenegrin through the verbal morpheme. Conversely, in English, the feature [±definiteness] is routinely activated, while [±boundedness] is not routinely activated through verbal morphology, except in the case of progressives, which express [-boundedness]). In the case of nonprogressives, which are ambiguous as to the feature [±boundedness], ESL learners, especially [-art] L1 learners, have to do a lot of restructuring (Slabakova and Montrul 2003). It is assumed here that these restructuring processes can help ESL learners activate both [±boundedness] and [±definiteness] meanings of English articles.

Namely, when decoding input, our Montenegrin L1 learners first need to look at articles, among other factors relevant to CA, interpret input as signalling [+boundedness] or [-boundedness], and then choose a [+bounded] or [-bounded] verb equivalent in their L1. When encoding the aspectual meanings of their L1 verbs, they need to remember that both [-bounded] *čitati* ('be reading/read [for

some time]') and [+bounded] *pročitati* ('read [to the end]') correspond to the verb *read* in English and that the aspectual equivalence between their L1 and L2 depends on the way they use articles, among other elements.

Perfective (or bounded) verbs from their L1 require the definite or the indefinite article, but do not allow progressives. This is shown in the translations of the examples in (15) and (16), where the definite article must be used before the plural *books* and the mass noun *meat* to signal [+boundedness] in English (note the underlined NPs). In sentences with singular count nouns, the [+bounded] condition is fulfilled because singular count nouns are normally used with a determiner, and a learner then needs to focus on the [±definiteness] status of the referents and choose an appropriate article in English. If the zero article or the progressives were used in the translations of (15) and (16), there would be no equivalence, i. e. such sentences would signal [-boundedness] in English.

(15)   Nina   je   pro-čita-l-a   knjig-e.
       Nina;NOM   AUX   PFV-read-PST-3SG   book-PL;ACC
       'Nina read <u>the books</u>.'

(16)   Nina   je   po-je-l-a   meso.
       Nina;NOM   AUX   PFV-eat-PST-3SG   meat-mass;ACC
       'Nina ate <u>the meat</u>'

Imperfectivity from their L1 can be encoded in several ways. First, it is possible to use the nonprogressive form, but only if it is unbounded by a bare plural or a mass noun, a durative adverbial, or some other unbounding device. Otherwise, the progressive must be used. One may feel that signalling [+boundedness] in English is more challenging for these ESL learners because omission of the definite and the indefinite article, or oversuppliance of the zero article, is a common problem. However, [-boundedness] can be quite challenging since it can be signalled by several different means, each carrying its own subtle difference in meaning. For example, (17) can be rendered into English as (18a), (18b), or (18c).

(17)   Nina   je   čita-l-a   knjig-e.
       Nina;NOM   AUX   IPFV-read-PST-3SG   book-PL;ACC
       'Nina read books.'

(18)   a. Nina read books.
       b. Nina was reading books.
       c. Nina was reading the books.

When selecting the right rendition, ELS learners need to take several things into account: first, whether they are dealing with a habitual situation, as in (18a), or a specific one, as in (18b) and (18c), and second, whether, in the case of specific readings, the conditions are met for a unique identifiability of the referents, as in (18c). ESL learners also need to remember that it is possible that *books* in (18a) means *some books* (see Section 3.1), that the progressive in (18b) is not compatible with generic readings, and that *books* in (18b) probably means *some books* (see Kabakčiev 2000 for nonhabitual use of nonprogressive verb forms with bare plural and mass nouns).

One may argue, however, that the knowledge about the signalling of [±boundedness] through articles is not especially relevant since it mainly concerns the two arguments and the verb. In a clause or sentence there may also be nominals that are not arguments and, therefore, articles with these nominals do not take part in the composition of [±boundedness]. For example, while the articles in *the girl* and *a book* in (19) have an impact on [±boundedness], the article in *a hero* does not influence the aspect of the sentence and functions simply as a marker of [-definiteness].

(19) The girl read a book about a hero.

It is clear that the information carried by the two arguments and the verb, i. e. who did what to whom, or who was doing what to whom, accounts for a significant portion of human communication. ESL learners need to know they cannot express [+boundedness] with bare plural/mass nouns, or [-boundedness] with [+bounded] singular and plural/mass nouns unless their verbs are states and activities, and unless [-boundedness] is signalled by some other structures.

As to how such knowledge can help ESL learners improve article use in general, the following three reasons are proposed. First, it will show them that articles in English are not empty units, which will raise their awareness of articles (cf. McEldowney 1977; Master 1990; Trenkic 2001, Trenkic 2007; Master 2007) and reduce omission errors. Second, once learners focus their attention on the [±boundedness] role of articles, they will also pay more attention to their [±definiteness] role. For example, when they remember that they must use *a* or *the* with a noun denoting a bounded singular referent, they will be more likely to also think about which one is appropriate in the given communicative situation (Master 1986; Wigglesworth 2005). Third, the knowledge about this high-level feature [±boundedness] in English will help ESL learners get a clearer picture of how the semantics of articles, nouns, verbs, tenses, and many other elements are intertwined, which will improve their overall L2 competence.

As for how ESL learners can obtain such knowledge, it is suggested learners cannot obtain it from input but only through explicit instruction. A study was conducted with groups of intermediate and advanced ESL learners to measure the effects of instruction in [±boundedness] and get answers to the following research questions:

RQ 1: Can explicit instruction on CA help ESL learners improve article use?
RQ 2: Will learners' progress in article use depend on their overall English proficiency?

4 Study

4.1 Participants

The study was conducted at two campuses in Montenegro. A total of 120 ESL learners were recruited, divided in four groups, two test groups and two control groups. The biggest difference between the groups is that in the years before the present study, the English majors (Groups 1 and 3) had had the most courses in English, while the two Political Science majors (Groups 2 and 4) had had ESP classes once a week for 90 minutes. Table 1 gives additional information on the

Table 1: Participant variables.

Variable	Group 1	Group 2	Control Group 1	Control Group 2
Major	English and Literature	International Relations	English and Literature	Journalism
Average age	21–22	19–20	21–22	19–20
Years of ELT	12	10	12	10
Group size	30	30	30	30
Course entry requirement	Advanced (C.1.1)	Intermediate (B.1.2)	Advanced (C.1.1)	Intermediate (B.1.2)
Other foreign languages				
Russian	9	3	12	7
French	8	8	11	10
German	3	2	0	1
Italian	10	17	7	12
Time spent abroad				
Fewer than 3 months	4	3	6	2
More than 3 months	0	0	0	0

learners. The four groups were randomly selected from the respective larger groups who had come to sit for an exam.

4.2 Procedure

Three tests were administered in the study: a pre-test, a post-test, and a retention-test; these were all translation exercises from Montenegrin into English, with 15 minutes allowed for each test. The only information given to the learners before the pre-test was that the study was being done for research purposes. The pre-test sheets were collected immediately so that the learners had no chance to review their work or compare it with that of their fellow students. After a short break, the learners were given a 30-minute power-point presentation on CA, delivered in a simple grammar metalanguage, which was a mixture of English and Montenegrin, particularly in view of the understanding of the Political Science students. The introduction immediately attracted attention thanks to the examples using Montenegrin biaspectual verbs, which, just like English verbs, yield [±bounded-ness] depending on the elements outside of the verb. In an exchange during and after the intervention, the participants told the researcher that they had never heard that encoding perfectivity and imperfectivity in English could be associated with article use, and showed a lot of interest. The English examples were simplified, in that they all had accomplishment verbs and bounded nominals in the subject position. The post-test was administered on the same day, after a 15-minute break, and the retention test three days later. Bearing in mind all the conditions in which the study was conducted, to which we will turn in Section 5, our expectations were not set very high. We were aware that if the findings showed positive instruction effects on the learners' article use, they were to be interpreted as a good signal and not a definite conclusion.

4.3 Instrument

The three tests[10] each featured 12 sentences. Each sentence had two clauses, one with the target, an accomplishment verb, which they were asked to translate into English, and one that was in English and provided context. The context clause did not include a pattern or a verb form that would suggest a correct translation of the first clause. The instrument included the following instruction – try to use the Past Simple Tense and use the Past Progressive Tense only if it is absolutely

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10 The tests are attached as supplementary material.

necessary for a correct and precise translation into English. There were two reasons for this: i) the only targets requiring the progressive form were accomplishments with a singular count noun in the object position, because they would otherwise signal [+boundedness], and ii) this encouraged the learners to apply the CA rules and avoid the unnecessary use of the progressives when encoding [-boundedness] into English, which is a common problem among ESL learners (Bardovi-Harlig and Reynolds 1995; Bardovi-Harlig 1999).

Of the 12 sentences in Montenegrin, 6 had perfective, and 6 imperfective verbs. In terms of the nouns in object positions, there were 4 singular countables, 4 plural countables, and 4 mass nouns. Some of the examples from the pre-test, together with possible English translations, are given in (20) through (25), with the six targets underlined. The post-test and retention-test sentences were identical to (20) through (25) in terms of their structure and targets but were of different content.

(20) Ana je <u>nacrtala kutiju</u>. Meni liči na prozor.   (PF V + SG N)
      'Ann a <u>drew a/the box</u>.' It looks like a window to me.

(21) Luka <u>je pojeo meso</u>. Mislila sam da će kupiti još malo.   (PF V + MASS N)
      'Luka <u>ate the meat</u>.' I thought he would buy some more.

(22) <u>Ispitali ste studente</u>. Da li želite da pozovemo još nekoga?   (PF V + PL N)
      'You <u>examined the students</u>.' Do you want us to invite
      anyone else?

(23) Luka <u>je popravljao motocikl</u>. Donijeću danas još neke   (IMPF V + SG N)
      rezervne djelove.
      'Luka <u>was repairing a/the motorcycle</u>.' Today, I'll bring
      some more spare parts.

(24) <u>Pila je</u> uglavnom crno <u>vino</u>, nikada bijelo.   (IMPF V + MASS N)
      'She <u>drank</u> mainly red <u>wine</u>, never white.

(25) <u>Pravio je krofne</u> bio je odličan pekar.   (IMPF V + PL N)
      'He <u>made doughnuts</u>, ' he was an excellent baker.

The sentences with perfective verbs in Montenegrin require an article in English. Either *a* or *the* can be used in (20), but only *the* in (21) and (22). The imperfectivity of (23) requires the progressive verb form because the accomplishment *repair a/the motorcycle* in English would otherwise yield [+boundedness]. The imperfectivity of (24) and (25) can be obtained only by using the zero article before *wine* and *doughnuts*. Since there were 2 sentences for each of the six V + N

targets, the database had 60 translations for each target, with (a) through (d) as possible combinations. It is understood that with plural and mass nouns, options (b) and (d) are acceptable with the definite article only:

(a) non-progressive + *zero* article + noun
(b) non-progressive + *a/the* + noun
(c) progressive + *zero* article + noun
(d) progressive + *a/the* + noun

Some sentences that used imperfective verbs in Montenegrin were potentially ambiguous. For example, (25) could be interpreted as nonhabitual in a context where the speaker is describing a specific situation, i. e. the activity of making doughnuts, and then makes a general comment about the baker's skill. A translation of this reading is given in (26).

(26) He was making doughnuts, he was an excellent baker.

Such sentences were noticed during the correction but were not excluded from the database as they gave the researcher an additional insight into the learners' view of aspectual values (Parrish 1987). To account for such unexpected answers, the range of possible answers for the statistical analysis was defined as follows – 1 for a correct answer, 2 for a partly acceptable answer, and 3 for an incorrect answer. Although the participants had been instructed to use the Past Simple and Past Progressive Tense in their translations, those that used the Present Perfect Tense were not excluded either.

Based on our experience in teaching Montenegrin L1 ESL learners, we expected that at pre-test our learners would make most errors with oversuppliance of the zero article with plural and mass nouns in [+bounded] contexts, thus producing unwanted [-boundedness]. As for oversuppliance of the zero article with singular countable nouns, we expected only our intermediate learners to make that error.

4.4 Results

Research Question 1 asked what the effects of explicit instruction were on ESL learners' performance on article use. This question was answered by submitting the pre- and post-test scores to a paired-samples *t* test (Table 2). The data provides evidence for instruction effects[11] since all learners performed better in the post-test than in the pre-test.

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11 A detailed statistical analysis is attached as supplementary material.

Table 2: Paired-Samples t test for the advanced and intermediate groups by pre- and post-tests.

Groups	PRE&POST tests	Mean	SD
Advanced ('AG')	Pre	1.486	0.359
	Post	1.428	0.353
Intermediate ('IG')	Pre	1.942	0.426
	Post	1.803	0.358
Control Group 1 – Advanced ('ACG')	Pre	1.831	0.452
	Post	1.636	0.340
Control Group 2 – Intermediate ('ICG')	Pre	2.014	0.387
	Post	1.903	0.388

Note: Correct answer = 1; Incorrect answer = 3, i. e. the lower the score the better the performance.
n = 60 by each group

The difference between the pre- and post-test means was statistically significant for the IG (paired t-test, T(59) = 2.186 p = 0.033*), but not for the AG (paired t-test, (T(59) = 0.876, p = 0.385*). The same test was performed for the control groups and shows significant differences for both the ACG (T(59) = 2.311, p = 0.024*) and the ICG (T(59) = 2.678, p = 0.010*).[12] Although the difference was not significant within the AG, Table 2 shows that overall article use is much better in the AG than in the IG. Significant differences were found between the pre-test (independent t-test, t (118) = −6.329, p = 0.000*) and post-test scores (independent t-test, t(118) = −5.773, p = 0.000*). Table 2 shows the AG performed well initially, and made a slight improvement in the post-test, while the IG performed worse than the AG in the pre-test but achieved greater progress in the post-test. This data provides clear evidence for L2 proficiency effects on learners' article use, which answers Research Question 1 (see Master 1997; Ko et al. 2008).

The AG performed better than ACG in both pre- and post-tests. Their means were statistically different (pre-test: independent t-test, t (118) = −4.616, p = 0.000*, and post-test: independent t-test, t (118) = −3.294, p = 0.001*). The intervention effect-size was measured using Cohen's d and pre- to post-test contrasts are considered large (0.8 for the pre-, and 0.6 for the post-test).

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12 A type I error occurs when a null hypothesis that is true is rejected. The probability of such an error is equal to the significance level (p value). In these cases (IG, ACG and ICG), the level of significance is equal to 0.05, thus this is the probability of a type I error.

Table 2 shows no significant difference between the IG and the ICG's means (pre-test: independent *t*-test, t (118) = −0.972, p = 0.333*, and post-test: independent *t*-test, t (118) = −1.465, p = 0.146*) although the IG performed better in the post-test. The intervention effect-size was measured using Cohen's d and pre- to post-test contrasts are considered large (0.17 for the pre-, and 0.27 for the post-test). Although we were aware that multiple comparisons increase the probability of Type I error, no adjustments were undertaken since we felt that reporting effect sizes was sufficient for this study.

The learners' correct article use by the target types is shown in Figure 1 (AG) and Figure 2 (IG). The prediction was that after the short intervention, they would perform better in the post-test on all target types. For the AG, significant results were found only for IPF + SG (paired *t*-test, T(59) = −2.381, p = 0.020*) and PF + MASS (paired *t*-test, T(59) = 2.849, p = 0.006*). Their performance on the IPF + SG target was better in the pre-test than in the post-test, while for PF + MASS, it was better in the post-test. The differences for the remaining targets were not statistically significant. The findings for the PF targets show positive instruction effects, i. e. the correct use of the definite article with plural and mass nouns in bounded contexts increased.
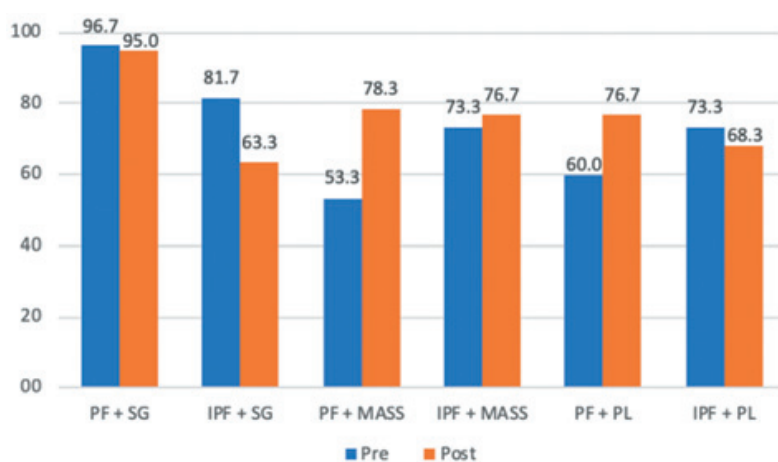

Figure 1: Correct article use on pre- and post-tests for the AG.

For the IG, significant differences were found between the pre- and post-tests in all target types, except for IPF + PL (paired *t*-test, T(59) = −1.954, p = 0.055*). For the remaining five targets, the results were as follows – PF + SG (paired *t*-test, T(59) = 3.227, p = 0.002*), IPF + SG (paired *t*-test, T(59) = 2.013, p = 0.049*), PF + MASS (paired *t*-test, T(59) = 3.227, p = 0.002*), and PF + PL (paired *t*-test, T(59) = 2.026, p = 0.047*). For IPF + MASS (paired *t*-test, T(59) = −2.296, p = 0.025*), the learners' performance was worse in the post-test than in the
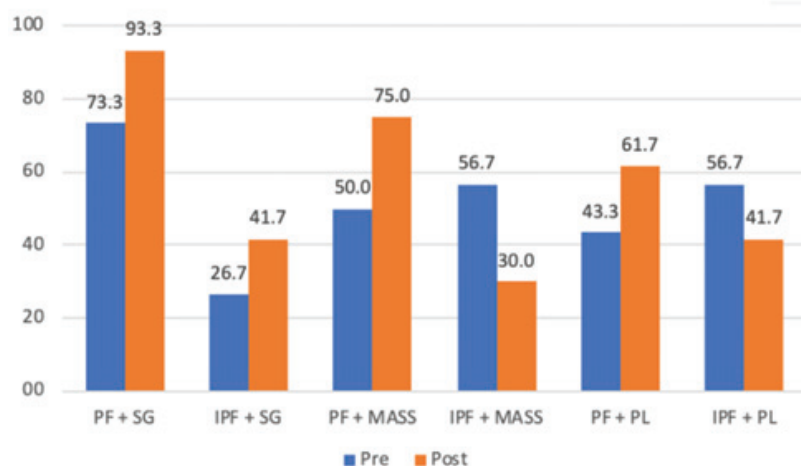
Figure 2: Correct article use on pre- and post-tests for the IG.

pre-test. The IG scores suggest that their awareness of the need for articles increased (see the columns for PF + SG and IPF + SG).

Figures 3 and 4 show the AG and IG's scores on the pre- and post-tests. Significant differences in favour of the AG were found in PF + SG, IPF + SG, IPF + MASS, and IPF + PL targets in the pre-test. For PF + MASS and PF + PL, the difference was not statistically significant. The comparison of the AG and IG's performance in the post-test showed significant differences on IPF + SG, IPF + MASS, and IPF + PL in favour of the AG. The independent *t*-test did not show significant differences for PF + SG, PF + MASS, and PF + PL.

Figure 3: Correct article use in the pre-test for the AG and IG.

The learners' performance on the post- and retention-tests is compared in Figures 5 and 6. No significant differences were found between the AG's post- and retention-test scores. Significant differences were found only for the IG's

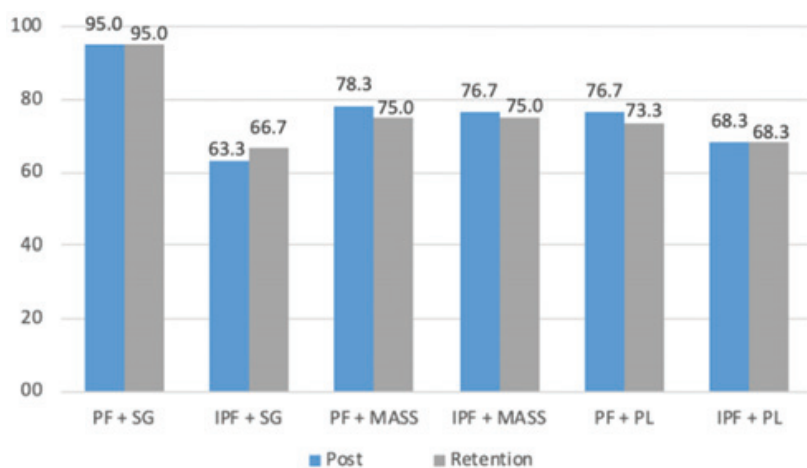**Figure 4:** Correct article use in the post-test for the AG and IG.

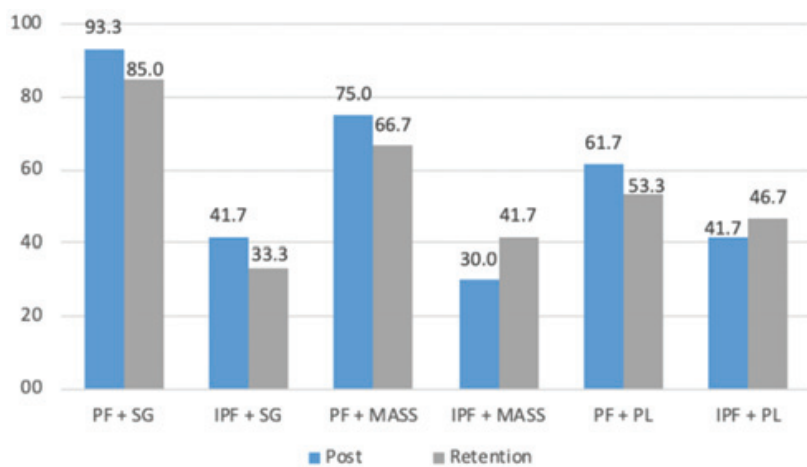**Figure 5:** Article use on the post- and retention-tests for the AG.

Figure 6: Article use on post- and retention-tests for the IG.

scores related to IPF + MASS and PF + PL targets.[13] These participants performed better on the retention-test in the IPF + MASS target, while their performance in the PF + PL target was better on the post-test. For the remaining targets, the IG's performance was similar on both the post and retention-tests.

The results can be summarized as follows:

(i) Instruction in [±boundedness] can help ESL learners improve article use, i. e. our two intervention groups improved their results from pre- to post-tests.

(ii) ESL learners' progress in article use depends on their overall English proficiency.

5 Discussion of the results and suggestions for future research

The research questions investigated the effects of instruction and L2 proficiency on article use. Before we discuss the results, several observations must be made about a number of key aspects of the study.

The study was conducted with [-art] L1 intermediate and advance proficiency ESL learners. The three tests (pre-, post- and retention-tests) looked at not only their overall performance in correct article use, but also their performance on 6 different targets which combined perfective and imperfective verbs with three different NPs (singular countable, plural, and mass nouns). Among the positive aspects of our study are the following: i) the participants were intermediate to advanced proficiency ESL learners, which we believe is high enough for the acquisition of the feature [±boundedness] (see Snape et al. 2016; cf. Snape and Yusa 2013; Lopez 2017), ii) the participants were highly motivated to learn about this feature as it connected a meaning in their L1 that is routinely activated to a meaning in their L2 that they often had problems with, iii) the instruction was offered in a mixture of English and the learners' L1 (Snape and Yusa 2013; Snape et al. 2016), and iv) the instruction targeted accomplishment verbs in simple SVO structures, with [+bounded] subject NPs. The negative aspects, or limitations, are the following: (i) the instruction period was extremely short (Snape and Yusa 2013; Snape et al. 2016; Umeda (2019), (ii) the retention-test was conducted only three days after the post-test, (iii) although the test sentences were with accomplishment verbs only, they looked at article use with singular, plural, and mass nouns at the same time,

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13 Ibid.

and (iv) the study was conducted using only one type of instrument, which was a translation exercise.

Regarding the first question, the study found that both groups improved their performance as a result of the intervention. Given the limitations mentioned above, these results by far exceeded our expectations. Surprisingly, the post-test performance on [+boundedness] was much better than on [-boundedness]. An increase in correct article use was recorded for two out of three PF targets in the AG group, and for all three PF targets in the IG group, which shows that the learners increased their awareness of the need for the definite article with plural and mass nouns, but also that the IG remembered not to use the zero article with singular objects.

The scores for IPF targets are surprising since encoding [-boundedness] was initially seen as less challenging than encoding [+boundedness]. The AG even performed worse in the post-test for the IPF + SG and IPF + PL targets. Upon closer inspection of these targets in the database, the following explanations are proposed – i) the sentences with IPF targets were ambiguous and the learners misinterpreted them as dynamic in certain situations that were seen as clearly habitual by the researcher, ii) accomplishment verbs with a countable noun were not used in the progressive form to signal [-boundedness] because they were misled by the instruction to stick to the Past Simple Tense whenever possible, iii) the definite article was misused to emphasize distinction in contexts where that was not necessary. For example, many participants used *drank mainly the red wine, never white* in (24), instead of *drank mainly red wine, never white*, and iv) poor performance on IPF targets in the post-test might be the result of over focusing on articles, however ironic this may sound. The instruction process showed that all three articles carry important aspectual information, but the learners may have associated English articles only with the definite and the indefinite, and thus not with the zero article.

Overall findings point to some of the challenges encountered by ESL learners in cross-linguistic form to meaning mappings. In their efforts to establish equivalence between their L1 and L2 aspectual values, our ESL learners are confronted with multiple tasks and sources of information that compete one against the other. There is overt aspect in their L1 and a multitude of elements in L2 that contribute overtly or covertly to the signalling of aspect. This competition was most obvious in the IPF targets – when confronted with several different options (situation – habitual or dynamic?, verb form – progressive or nonprogressive?, article: *a/the* or the zero article?), our learners got lost and made many more article substitution errors than had been expected. However, the findings seem to suggest that [-art] ESL learners can benefit from verbal morphology in their L1 which routinely activates the

feature [±boundedness] in their L1 to raise an awareness of the role of articles in signalling [±boundedness] but also in marking [±definiteness], a meaning that is not routinely activated in their L1 (Jiang et al. 2011, Jiang et al. 2017).

As has been stated a number of times in this paper, there are no absolutely clear divisions between different language families. English is an [+art] language, but some of its verbal morphology expresses [-boundedness] directly (e. g. through progressives). Romance languages are [+art] languages, but their past tenses also express [±boundedness] directly. Some [-art] languages, on the other hand, such as Bulgarian and Macedonian, have verbal aspect, but also the definite article. The extent to which the meaning of [±boundedness] is activated in their respective L1 varies, but we believe it makes sense to offer instruction on this feature to those L1 speakers too and measure its effects on article use, particularly bearing in mind the findings of some earlier research (especially Slabakova 2001 for Bulgarian L1; Slabakova and Montrul 2003 for English L1; but also many studies on Spanish L1 ESL learners previously mentioned in this paper).

Regarding the second research question, the study showed a significant impact of L2 proficiency on learners' article use. The AG performed better on all the tests, although the IG made much greater progress between the pre- and post-tests. The positive effects of L2 proficiency are also demonstrated by the retention-tests. As Figures 5 and 6 show, once the AG had acquired the new rules, these rules were more stable and were implemented more consistently, while the IG seem to have acquired the new rules easily but showed less consistency in their implementation three days later.

Based on the above, it might be claimed that to achieve long-lasting effects on ESL learners' article use, the explicit instruction they receive needs to be provided systematically and over a longer period of time (Umeda et al. 2019). If possible, they should be provided instruction on all the elements that are relevant to CA. This need is confirmed by our AG, who, in spite of the extensive input of English in the three and a half years of their studies, still made errors, but also by our IG, whose awareness of articles rose quickly but soon fell away again. The decisions on the when and the how of that instruction must be taken for each group separately. As for the selection of examples for such instruction, note again that the context clauses in our instrument seem to have confused the learners. While it is generally accepted that putting target structures in a natural context is the only reasonable way to teach ESL, in the case of article-aspect interplay, it might be wise to start from the basics, using Verkuyl's schemata (Verkuyl 1989), and then gradually introduce other elements and explain their impact.

On this journey, all ESL learners would benefit from pedagogical grammars that include the feature [±boundedness] in different chapters. For example,

when reading about the use of *milk* and *the milk*, it would be helpful to know not only that *the milk* is used to mark the identifiability of the referent as in *The milk in the fridge has gone sour* but also that *the milk* in *I drank the milk* signals that the speaker finished the activity of drinking. Similarly, when reading about the tense system, it would help if students received an explanation that the non-progressive verb form is ambiguous as to the feature [±boundedness] and that the aspectual value at the levels of verb phrase, clause, and sentence depends on how all the other pieces of the puzzle are put together.

The findings of this study offer pathways for future research. Future similar studies with [-art] L1 participants would be needed most in order to see whether similar positive effect would be recorded. Future studies should include longer interventions and longer intervals between post- and retention tests for better insights. In addition, study instruments that also include [±definiteness]-only articles would allow us to measure instruction effects on the use of [±definiteness] articles and mixed [±boundedness] and [±definiteness] articles separately.

6 Conclusion

The paper has demonstrated that CA as a theory underlying aspect semantics in English has important implications for ESL article use. A study conducted as part of this analysis points to positive effects of explicit instruction on [±boundedness], the feature that regulates aspectual meanings. Furthermore, the same theory has served as basis for a suggestion that signalling [±boundedness] is the primary role of articles, i. e. that articles are there to announce that an NP whose referents are identifiable is coming, and that their role to mark [±definiteness] is peripheral (Hawkins 2004; Trenkic 2008, Trenkic 2009). The author has no knowledge of other similar studies of this kind. Accordingly, further research in article semantics and effects of instruction on CA is called for to corroborate or challenge these claims. If corroborated, it would make a strong case for incorporating CA in English classrooms, coursebooks and grammars. We are fully aware that our short explicit instruction on [±boundedness] only opened our learners' minds to some of the explicit rules they need for correct article use (Schwartz and Gubala-Ryzak 1992; Jiang 2004). It is understood that the path from instruction to acquisition and correct ESL production is long and complex, but we hope the present study has shown that CA can be a great help on that journey.

References

Abraham, Werner. 1997. The interdependence of case, aspect, and referentiality in the history of German: The case of the genitive. In Ans van Kemenade & Nigel Vincent (eds.), *Parameters of morphosyntactic change*, 29–61. Cambridge: Cambridge University Press.

Andersen, Roger & Yasuhiro Shirai. 1996. Primacy of aspect in language acquisition. In William C. Ritchie & Tej K. Bhatia (eds.), *Handbook of second language acquisition*, 527–570. San Diego: Academic Press.

Bardovi-Harlig, Kathleen. 1999. From morpheme studies to temporal semantics. Tense-aspect research in SLA. *Studies in Second Language Acquisition* 21. 341–382.

Bardovi-Harlig, Kathleen & Dudley W. Reynolds. 1995. The role of lexical aspect in the acquisition of tense and aspect. *Teaching English to Speakers of Other Languages* 29(1). 107–131.

Berry, Roger. 1991. Re-articulating the articles. *English Language Teaching Journal* 45(3). 252–259.

Bulatovic, Vesna. 2013. Modern theories of aspect in English and Serbian EL2 learners. *Belgrade English Language and Literature Studies* V. 65–79.

Bulatovic, Vesna. (forthcoming). Thinking for speaking in the right aspect - On whether modern English grammars can do more. *Revista Española de Lingüística Aplicada/Spanish Journal of Applied Linguistics*.

Chesterman, Andrew. 1991. *On definiteness: A study with special reference to English and finnish*. Cambridge, UK: Cambridge University Press.

Comrie, Bernard. 1976. *Aspect*. Cambridge, UK: Cambridge University Press.

Depraetere, Ilse. 1995. On the necessity of distinguishing between (un)boundedness and (a) telicity. *Linguistics and Philosophy* 18. 1–19.

Downing, Angela & Philip Locke. 2006. *English grammar. A university course*, 2nd edn. London and New York: Routledge, Taylor and Francis Group.

Ellis, Rod. 2002. Does form-focused instruction affect the acquisition of implicit knowledge? A review of the research. *Studies in Second Language Acquisition* 24(02). 223–236.

Filip, Hana. 1994. Aspect and the semantics of noun phrases. In Co Vet & Carl Vetters (eds.), *Tense and aspect in discourse* (Trends in Linguistics. Studies and Monographs 75), 227–256. Berlin and New York: Mouton de Gruyter.

Filip, Hana. 2001. Nominal and verbal semantic structure: Analogies and interactions. *Language Sciences* 23. 453–501.

Glasbey, Sheila. 1994. *Event structure in natural language discourse*. Edinburgh: University of Edinburgh PhD thesis.

Hawkins, John A. 1991. On (in)definite articles: Implicatures and (un)grammaticality predictions. *Journal of Linguistics* 27. 405–442.

Hawkins, John A. 2004. *Efficiency and complexity in Grammars*. Oxford: OUP.

Huddlestone, Rodney & Geoffrey K. Pullum. 2005. *A student's introduction to English grammar*. Cambridge: CUP.

Ionin, Tania. 2003. *Article Semantics in Second Language Acquisition*. Cambridge, Mass: MIT PhD thesis.

Ionin, Tania, Ko Heejeong & Ken Wexler. 2004. Article semantics in L2-acquisition: The role of specificity. *Language Acquisition* 12. 3–69.

Ionin, Tania & Silvina Montrul. 2010. The role of L1-transfer in the interpretation of articles with definite plurals in L2-English. *Language Learning* 60. 877–925.

Ionin, Tania, Montrul Silvina & Monica Crivos. 2013. A bidirectional study on the acquisition of plural noun phrase interpretation in English and Spanish. *Applied Psycholinguistics* 34. 483–518.

Ionin, Tania, Maria Luisa Zubizarreta & Salvador Bautista Maldonado. 2008. Sources of linguistic knowledge in the second language acquisition of English articles. *Lingua* 118. 554–576.

Jakobson, Roman. 2000 [1959]. On linguistic aspects of translation. In Lawrence Venuti (ed.), *The translation studies reader*, 113–118. London and New York: Routledge.

Jiang, Nan. 2004. Morphological insensitivity in second language processing. *Applied Psycholinguistics* 25(4). 603–634.

Jiang, Nan. 2007. Selective integration of linguistic knowledge in adult second language learning. *Language Learning* 57(1). 1–33.

Jiang, Nan, Novokshanova Eugenia, Masuda Kyoko & Xin Wang. 2011. Morphological congruency and the acquisition of L2 Morphemes. *Language Learning* 61(3). 940–967.

Jiang, Nan, Hu Guiling, Chrabaszcz Anna & Ye Lijuan. 2017. The activation of grammaticalized meaning in L2 processing: Toward and explanation of the morphological congruency effect. *International Journal of Bilingualism* 27(1). 81–98.

Kabakčiev, Krasimir. 1984. The article and the aorist/imperfect distinction in Bulgarian: An analysis based on cross-language aspect parallelisms. *Linguistics* 22(1). 643–672.

Kabakčiev, Krasimir. 2000. *Aspect in English: A "Common-Sense" view of the interplay between verbal and nominal referents*. (Studies in Linguistics and Philosophy 75). Dordrecht: Springer.

Kabakčiev, Krasimir. 2017. *An English grammar: Main stumbling blocks for Bulgarians learning English*. Stuttgart: Mariana Kabakchiev Verlag.

Kabakčiev, Krasimir. 2019. On the history of compositional aspect: Vicissitudes, issues, prospects. *Athens Journal of Philology* 6(3). 201–224.

Katunar, Daniela, Willer-Gold Jana & Gnjatović Tena. 2013. Achieving specificity in an articleless language: Specificity markers in Croatian. *Suvremena Lingvistika* 39(74). 25–43. https://hrcak.srce.hr/105497 (accessed 12 November 2017).

Ko, Heejeong, Perovic Alex, Ionin Tanya & Ken Wexler. 2008. Semantic universals and variation in L2 article choice. In Roumyana Slabakova, Jason Rothman, Paula Kempchinsky & Elena Gavruseva (eds.), *Proceedings of the 9th generative approaches to second language acquisition conference (GASLA 2007)*, 118–129. Somerville, MA: Cascadilla Proceedings Project.

Krifka, Manfred. 1989. nominal reference, temporal constitution and quantification in event semantics. In Renate Bartsch, Johan van Bentham & Peter van Emde Boas (eds.), *Semantics and contextual expressions*, 75–115. Dordrecht: Foris.

Leńko-Szymańska, Agnieszka. 2012. The role of conventionalized language in the acquisition and use of articles by EFL learners. In Yukio Tono, Yuji Kawaguchi & Makoto Minegishi (eds.), *Developmental and crosslinguistic perspectives in learner corpus research*, 83–103. Amsterdam: John Benjamins.

Leskien, August. 1919. *Grammatik der altbulgarischen (altkirchenslavischen) Sprache*. 2/3. Aufl. Heidelberg. (=Sammlung slavischer Lehr- und Handbücher I, 1). LII. 260 S. (69–102: Stammbildung der Nomina.

Lopez, Elaine. 2017. Teaching the English article system: Definiteness and specificity in linguistically-informed instruction. *Language Teaching Research* 23(2). 200–217.

Lyons, Christopher. 1999. *Definiteness*. Cambridge: Cambridge University Press.

Master, Peter A. 1986. Measuring the effect of systematic instruction in learning the English article system. Unpublished manuscript, Linguistics Department, Fresno: California State University.

Master, Peter. 1990. Teaching the English articles as a binary system. *Teaching English to Speakers of Other Languages (TESOL quarterly)* 24(3). 461–478.

Master, Peter. 1992. The function and status of the zero article in English. Paper presented at the California Teachers of English to Speakers of Other Languages State Conference, Sacramento, California, 3 April, 1992. https://www.researchgate.net/publication/305470784_The_Zero_Article_in_English (accessed 16 September 2018).

Master, Peter. 1997. The English article system: Acquisition, function, and pedagogy. *System* 25(2). 215–232.

Master, Peter. 2003. Acquisition of the zero and null articles in English. *Issues in Applied Linguistics* 14(1). 3–20.

Master, Peter. 2007. Article errors and article choices. *California Teachers of English to Speakers of Other Languages Journal (CATESOL journal)* 19(1). 107–131.

McEldowney, Patricia L. 1977. A teaching grammar of the English article system. *International Review of Applied Linguistics* 15(2). 95–112.

Moens, Marc & Mark Steedman. 1988. Temporal ontology and temporal reference. *Computational Linguistics* 14(2). 15–28.

Morales-Reyes, Alexandra. 2016. Transfer and semantic universals in the L2 acquisition of the English articles system by child L2 learners. *Language Acquisition* 23. 57–74.

Nishida, Chiyo. 1994. The Spanish reflexive clitic *se* as an aspectual class marker. *Linguistics* 32. 425–458.

Parrish, Berry. 1987. A new look at methodologies in the study of article acquisition for learners of ESL. *Language Learning* 37. 361–383.

Pica, Teresa. 1985. The selective impact of classroom instruction on second-language acquisition. *Applied Linguistics* 6(3). 214–222.

Robertson, Daniel. 2000. Variability in the use of the English article system by Chinese learners of English. *Second Language Research* 16. 135–172.

Rothstein, Susan. 2001. What are Incremental Themes? In Gerhard Jaeger, Anatoli Strigin, Chris Wilder & Nina Zhang (eds.), *Papers on predicative constructions: Proceedings of the workshop on secondary predication*, 22, 139–158. Berlin: ZAS.

Schmidt, Richard W. 1990. The role of consciousness in second language learning. *Applied Linguistics* 11(2). 129–158.

Schwartz, Bonnie & Magda Gubala-Ryzak. 1992. Learnability and grammar reorganisation in L2A: Against negative evidence causing the unlearning of verb movement. *Second Language Research* 8(1). 1–38.

Sciullo, Di, Anna Maria & Roumyana Slabakova. 2005. Quantification and aspect. In de Angeliek van Hout, Henriëtte de Swart & Henk Verkuyl (eds.), *Perspectives on Aspect*, 61–80. Dordrecht: Springer.

Slabakova, Roumyana. 2001. *Telicity in the second language*. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Slabakova, Roumyana & Silvina Montrul. 2003. Genericity and aspect in L2 acquisition. *Language Acquisition* 11. 165–196.

Slobin, Dan. 1996. From "thought and language" to "thinking for speaking. In John Gumperz & Stephen Levinson (eds.), *Rethinking linguistic relativity*, 70–96. Cambridge. MA: Cambridge University Press.

Smith, Carlota S. 1983. A theory of aspectual class. *Language* 59. 479–501.

Smith, Carlota. 1991/1997. *The parameter of aspect*. Dordrecht: Reidel.

Snape, Neal & Noriaki Yusa. 2013. Explicit article instruction in definiteness, specificity, genericity and perception. In Melinda Whong, Kook-Hee Gil & Heather Marsden (eds.), *Universal Grammar and the second language classroom*, 161–183. Dordrecht: Springer.

Snape, Neal, Mari Umeda, John Wiltshier & Noriaki Yusa. 2016. Teaching the complexities of English Article Use and Choice for Generics to L2 Leaners. In David Stringer, Jordan Garrett, Becky Halloran & Sabrina Mossman (eds.), *Proceedings of the 13th Generative Approaches to Second Language Acquisition Conference (GASLA 2015)*, 208–222. Somerville, MA: Cascadilla Proceedings Project.

Tenny, Carol. 1994. *Aspectual roles and the syntax-semantics interface*. Dordrecht: Kluwer.

Trenkic, Danijela. 2001. Establishing the definiteness status of referents in dialogue (in languages with and without articles). Working Papers in English and Applied Linguistics 7. 107–131. (accessed 23 August 2017).

Trenkic, Danijela 2007. Variability in second language article production: Beyond the representational deficit vs. processing constraints debate. *Second Language Research* 23(3). 289–327.

Trenkic, Danijela. 2008. The representation of English articles in second language grammars: Determiners or adjectives? *Bilingualism: Language and Cognition* 11. 1–18.

Trenkic, Danijela. 2009. Accounting for patterns of article omissions and substitutions in second language production. In María del Pilar García Mayo & Roger Hawkins (eds.), *Second language acquisition of articles: Empirical findings and theoretical implications*, 115–143. Amsterdam: John Benjamins.

Umeda, M, N Snape, N Yusa & J Wiltshier. 2019. The long-term effect of explicit instruction on learners' knowledge on English articles. *Language Teaching Research* 23(2). 179–199.

Vendler, Zeno. 1957. Verbs and times. *Philosophical Review* 56. 143–160.

Verkuyl, Henk. 1972. *On the compositional nature of aspects*. Dordrecht: Reidel.

Verkuyl, Henk. 1989. Aspectual classes and aspectual composition. *Linguistics and Philosophy* 12. 39–94.

Verkuyl, Henk. 1993. *A theory of aspectuality. The interaction between temporal and atemporal structure*. Cambridge: Cambridge University Press.

Vujic, Jelena. 2015. Deconstructing English article a construction grammar approach to teaching articles in English. *Romanian Journal of English Studies* 12. 94–115.

Wigglesworth, G. 2005. current approaches to researching second language learner processes. *Annual Review of Applied Linguistics* 25. 98–111.

Zdorenko, Tatiana & Johanne Paradis. 2008. The acquisition of articles in child second language English: Fluctuation, transfer or both? *Second Language Research* 24(2). 227–250.

Zergollern-Miletic, Lovorka. 2010. English articles revisited. In Magdolna Lehmann, Réka Lugossy & József Horváth (eds.), *University of pécs round table (UPRT) 10: Empirical studies in English applied linguistics*, 165–173. Pecs: Lingua Franca Csoport.

Zugic, Dragica. 2017. How to teach the article system to ESL students? *The Journal of Teaching English for Specific and Academic Purposes* 5(2). 179–187.