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Teaching the English article system: Definiteness and specificity in linguistically-informed instruction

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Abstract

Many explanations have been offered for the widely attested problems L2 learners experience with the English article system. One influential proposal from formal linguistics is the Article Choice Parameter and associated Fluctuation Hypothesis (Ionin, Ko & Wexler, 2004) which states that learners of English fluctuate between correct and incorrect usage by sometimes selecting articles on the basis of definiteness (correct for English) and sometimes on the basis of specificity (correct for Samoan). The current study trialled new instruction materials which taught specificity then measured the outcome with low-intermediate L1-Chinese learners of English (n=50). Results show that learners who were taught about specificity did not perform significantly better than learners who were taught about definiteness (using standard teaching materials) or learners who received no instruction on the English article system. The low proficiency of the learners and short intervention period likely contributed to their difficulty understanding the complexities of article meaning. Issues also arose

when developing instructional materials which were both linguistically-accurate and sufficiently simple for learners of this level.

Keywords

Definiteness, specificity, fluctuation hypothesis, article choice parameter, article instruction

Introduction

L2 grammar instruction can be effective, with explicit instruction reportedly more effective than implicit instruction (Norris & Ortega, 2000; Spada & Tomita, 2010). Outstanding questions include the type of knowledge developed (Norris & Ortega, 2000), and why some complex linguistic forms appear resistant to instruction. For example, English articles are semantically complex, lack saliency, and are difficult for even advanced level learners (Spada & Tomita, 2010). To date, the field of Generative Second Language Acquisition (GenSLA) research has not contributed much to this debate. In particular, intervention studies informed by GenSLA research are rare (exceptions include Toth & Guijarro-Fuentes, 2013; Hirakawa, 2013; Snape & Yusa, 2013). Within GenSLA literature, instruction has traditionally been considered to have no impact on underlying linguistic competence (e.g. Schwartz, 1993). However,

there is a need to link theoretical GenSLA research and pedagogy (Whong, Gil, & Marsden, 2013) and the current study was conceived in response to recent calls for closer engagement between these areas. Linguistically-informed instruction refers to instruction which directly applies the results of theoretical linguistic research to the language classroom. The current study reports on the first steps in developing linguistically-informed instruction based on GenSLA research in the domain of English articles, which are notoriously difficult to acquire and teach.

I devised a teaching intervention for Chinese learners of English in a real classroom setting, which applied results from research by Ionin, Ko and Wexler (2004). Their proposal suggests that definiteness and specificity may underlie some of the difficulties for learners of English whose L1s do not have an article system. Participants were enrolled in a full-time intensive language course and taken from pre-formed classes. The intervention fitted into lessons where explicit grammar instruction was normally provided, with skills-based lessons making up the rest of the course. The aim of the study was to determine whether instruction on specificity could help lower-intermediate classroom-based learners improve their accuracy with English articles and overcome the systematic patterns of errors reported by Ionin et al. (2004, amongst others).

This paper begins with a brief overview of definiteness, specificity, research on article acquisition and instruction, and an examination of how best to

teach complex forms. Details of the study are presented next. It concludes with a consideration of limitations and the implications for theory and pedagogy.

Background

Any examination of the linguistic characteristics of the English article system highlights its complexity and demonstrates why persistent errors are widely reported, even amongst very advanced L2 users. Within the theoretical literature there is an element of controversy surrounding definiteness and specificity, in terms of what these features mean and how they are represented in languages that do and do not have an article system. The definition adopted in the current study is from Ionin et al. (2004, p.5), based on Heim (1991) and Fodor & Sag (1982), with the concept of noteworthy property for specificity added by Ionin (2003) (see 1). Here, definiteness depends on shared knowledge between the speaker and listener and specificity depends only on speaker knowledge.

1. Definiteness and Specificity: Informal definitions

If a Determiner Phrase (DP) of the form [D NP] is...

- a.** [+definite], then the speaker and hearer presuppose the existence of a unique individual in the set denoted by the NP.

b. [+specific], then the speaker intends to refer to a unique individual in the set denoted by the NP and considers this individual to possess some noteworthy property.

Examples 2–5 show four contexts which arise from the distinction between definiteness and specificity (from Lyons, 1999, p.167).

2. [+definite, +specific]

Joan wants to present the prize to **the winner** – but he doesn't want to receive it from her.

3. [+definite, –specific]

Joan wants to present the prize to **the winner** – so she'll have to wait around until the race finishes.

4. [–definite, +specific]

Peter intends to marry **a merchant banker** – even though he doesn't get on with her at all.

5. [–definite, –specific]

Peter intends to marry **a merchant banker** – though he hasn't met one yet.

Article acquisition

Articles are difficult to acquire by L2 learners whose L1s do not have an article system (Parrish, 1987; Master, 1990; Young, 1996; amongst others). In the last decade, a number of studies have tested the Article Choice Parameter (ACP) proposed by Ionin et al. (2004) for languages with two articles. The ACP is a semantic parameter contrasting languages such as English, which select articles on the basis of definiteness, with languages such as Samoan, which select articles on the basis of specificity. The associated Fluctuation Hypothesis (FH) proposes that L2 learners of English with an articleless L1 will sometimes select definiteness (correct for English) and sometimes specificity (incorrect for English, correct for Samoan) (Ionin et al., 2004). The original prediction states that more article misuse errors occur in contexts that are [+definite, –specific] and [–definite, +specific] (see table one).

Insert table 1 here

When empirically tested with intermediate-level Russian and Korean learners of English, article misuse errors followed the patterns predicted by the FH (Ionin et al., 2004). Subsequent research supported this proposal, either by demonstrating that learners from articleless L1s fluctuate between the two settings of the parameter (Ionin, Zubizarreta & Bautista Maldonado, 2008; Snape, 2009) or by showing that learners whose L1 has the definiteness setting can transfer this to English (Hawkins et al., 2006; Ionin et al., 2008; García Mayo, 2009). Ionin et al. (2004) suggested that learners who fluctuate will continue to do so until there is sufficient evidence from the input for them to select the correct setting of the ACP.

However, cross-linguistic evidence provided by Tryzna (2009) showed that Samoan only uses a separate article for non-specific indefinites and not, as stated by Ionin et al. (2004), for all non-specific contexts. Tryzna proposed a reduced ACP, and evidence from the errors of child Russian learners of English (Ionin, Zubizarreta and Philippov, 2009) supported her claim. In addition, not everyone agrees that article misuse errors occur due to problems setting a semantic parameter. Alternative theoretical accounts include syntactic misrepresentation (Trenkic, 2008), prosodic transfer (White, 2003), and feature reassembly (Hawkins et al., 2006; Lardiere, 2004; 2008).

Trenkic (2008) in particular takes issue with how specificity is operationalised in the work of Ionin et al. (2004, 2008, 2009). She states that specificity and ‘explicitly stated knowledge’ (ESK) are unrelated (2008, p.8), and that contexts classified as [-specific] by Ionin et al. (2004) are operationalised as the speaker explicitly stating that they do not know, or were not told, who the referent is. In her study, Trenkic concluded that specificity did not play a part in L2 article choice for Mandarin Chinese learners. However, the learners were found to pattern with the L1 Korean and L1 Russian learners in Ionin et al. (2004), due to the operationalisation of specificity in this task (Trenkic, 2008).

In contrast, Snape, Leung, and Ting (2006) argued that Mandarin Chinese was developing definiteness as a grammatical category, and suggested that Chinese learners are able to transfer [\pm definiteness] and map it on to corresponding lexical items in English (i.e., the definite and indefinite articles). They reviewed two small-scale studies involving Chinese, Japanese and Spanish learners of English. The Spanish learners were not predicted to fluctuate, as confirmed in the results, whereas the Chinese and Japanese learners were predicted to show similar error patterns (Snape et al., 2006). However, the Chinese L2 learners outperformed the Japanese learners despite both languages being articleless. Snape et al. (2006) explain their results by citing Li and Thompson’s (1981) suggestion that Chinese numerals and determiners may act as

optional articles. When article use amongst intermediate-level Mandarin Chinese learners of English was explored in more detail by Snape (2009), group results for the Chinese learners were consistent with the FH as they incorrectly selected *the* and *a* as markers of specificity.

To conclude, there are contradictory results from studies that have tested the FH and ACP with Chinese learners and further work is needed. In addition, none of the studies cited above have explored how English articles are taught. An evaluation of research in that area follows.

Article instruction

Whilst not as widespread as research into the L2 acquisition of English articles, a number of studies have examined article instruction. Master (1994, 2002) completed two intervention studies, and in both studies the instructed group improved significantly compared to a control group. Akakura (2012) also conducted an article intervention study. This focused on genericity, and a positive effect of explicit instruction was recorded on tests of both explicit and implicit knowledge.¹ Therefore, short-term improvement in accuracy is possible following explicit instruction on articles, and these studies suggest that instruction on the English article system is effective.

To date, only one published study (Snape and Yusa, 2013) has measured article instruction informed by GenSLA research. Their intervention targeted definiteness, specificity and genericity, and no difference was detected between the post-test results of the experimental and control groups. However, learners' perception of articles, as measured by a transcription task, improved following instruction. Snape and Yusa concluded that instruction on such a complex area of grammar may be too difficult for upper-intermediate learners, but conceded that the short instruction period may have been insufficient. In summary, despite being relatively small in number, several article intervention studies have found that learners can make measurable improvements within a short period (Master, 1994, 2002; Akakura, 2012). The next section will explore how best to teach this complex form.

Teaching complex grammar

As stated above, L2 grammar instruction can be effective (Norris & Ortega, 2000) although some structures, such as English articles, are notoriously problematic. There continue to be discussions around what type of instruction is most effective. Many studies have investigated the relative efficiency of explicit versus implicit instruction; meaning-focused versus form-focused instruction; the role of feedback; and related issues. There is widespread support for the necessity

of providing some type of focus-on-form during language lessons (Norris & Ortega, 2000). In an early study, Van Patten (1990) tested whether English learners of Spanish of various proficiencies were able to attend to both form and meaning at the same time. There was a clear split in results between groups focusing on content only or content and lexis together, versus learners told to focus on grammatical form. One experimental condition tested the definite article, and results suggested a cut-off proficiency, after which learners are able to have an awareness of free morphemes that does not compromise their comprehension. Van Patten's results suggest that lower proficiency learners are unable to pay conscious attention to articles when listening for meaning.

In terms of form-focused instruction, Norris and Ortega's (2000) meta-analysis found no difference between the effectiveness of instructional treatments where form was taught in isolation or integrated with meaning, although explicit instruction was found to be more effective than implicit. Implicit instruction usually involves exposure to a target form without any attention on rules or negative feedback, whereas explicit instruction always has some sort of focus on the rule. Spada and Tomita's (2010) meta-analysis compared instruction on simple and complex forms. For the purposes of their study, articles were classified as simple, due to form rather than function. Spada and Tomita (2010) also found explicit instruction to be more effective than implicit instruction, for

both simple and complex forms. They were unable to reach a conclusion on whether instruction can improve implicit knowledge, or just explicit.

To elaborate on the implicit/explicit distinction, it is generally accepted that there are two types of knowledge of language (Ellis, 2005; Whong, Gil & Marsden, 2014) although they are often defined and operationalised differently across different theoretical paradigms. Ellis (2005) lists seven differences between explicit and implicit knowledge, including level of awareness and how each type of knowledge is accessed and used. Whong et al. (2014) argue that only implicit knowledge should be the focus of research because it is more durable and automatic. Disagreements remain over whether explicit knowledge can become implicit always, never, or only under certain conditions (see Ellis, 2005, p.144 for a summary of the three interface positions). Therefore, instruction that targets explicit knowledge may or may not have long-term effects on implicit knowledge of forms.

Ellis (2006) argues that features may have different levels of difficulty when it comes to explicit and implicit knowledge. He explains that explicit knowledge of features is easiest to learn when the feature in question has both simple forms and simple functions. Following empirical tests, he found that implicit knowledge of indefinite articles is more difficult to acquire than explicit knowledge. Furthermore, they may be difficult to teach explicitly, as articles have

a simple form (*∅, a/an, the*) but a number of complex functions (Ellis, 2006). On the other hand, Dekeyser (2005, p.5) states that the “highly abstract notions” which are expressed by English articles are difficult to infer both explicitly and implicitly, and relates their difficulty to a problem with meaning.

This background highlights several issues addressed in the current study. These include whether instruction on specificity will improve article accuracy, whether Chinese learners behave the same as speakers of other articleless L1s, and whether implicit knowledge can be targeted by explicit instruction. The current project provided explicit instruction on articles to two groups of Chinese learners of English. Two measures were used, intended to explore both explicit and implicit knowledge, with one group receiving linguistically-informed instruction based on Ionin et al.’s (2004) FH. Details of the study follow.

The Study

The aim of this study is to explore whether explicit instruction on specificity can overcome the difficulties encountered by L2 learners of English with no L1 article system. An additional aim is to evaluate how complex linguistically-informed information about specificity can be communicated to low-proficiency learners. The assumption is that participants will display patterns of errors consistent with the FH at pre-test, and that these can be overcome using

explicit strategies learnt in the classroom. Due to questions surrounding which type of knowledge is developed by instruction, as discussed above, it is unclear whether explicit instruction can help learners to re-set the ACP. However, this is an exploratory study and it is assumed that, at the very least, raising awareness of the difference between definiteness and specificity will improve overall accuracy. The research question is: Do learners who receive instruction on definiteness and specificity improve more than learners who are taught only about definiteness?

Participants

The participants were 50 young adult Chinese learners of English who, at the time of data collection, were enrolled in a 10-week pre-session English course at a UK university. The course focused on developing academic skills, with participants selected from pre-formed language classes. Different classes were randomly assigned to one of three interventions so that a similar number of learners received each treatment. The No Instruction (control) group were not taught about articles during the course, although they received feedback on errors in their written work, which may have included article errors. The Standard Instruction group were taught about definiteness using published teaching materials. The Specificity Instruction (experimental) group were taught about definiteness and specificity using teaching materials created for this project. All

teaching took place during class time with testing carried out in classrooms during lunch breaks. The researcher (a qualified teacher) delivered the intervention to the Standard and Specificity Instruction groups and taught some additional lessons, with experienced colleagues co-teaching the skills-based lessons and delivering all of the instruction to the No Instruction group. Out of 56 participants recruited, six were excluded as they missed one or more of the teaching/data collection sessions. Participants completed the Oxford Quick Placement Test (QPT) (UCLES, 2001) and were classified as either elementary or lower intermediate (CEFR level A2 to B1). Table 2 shows the profiles of the groups.

Insert table 2 here

Mean proficiency differed significantly between the groups ($F_{2,47} = 7.64$, $p = .001$).² Post-hoc comparisons using Tukey's contrasts showed that the No Instruction group (classified as B1) scored significantly higher than the Standard Instruction (mean difference = 3.59, $p = .004$, 95% CI 1.01, 6.18) and Specificity Instruction groups (mean difference = 3.88, $p = .005$, 95% CI 1.06, 6.69) who were both A2 level.

Data Collection

This study used a pre-test–teach–post-test methodology, with the same tasks completed at both time points. A delayed post-test was conducted nine months after the intervention, but only six of the 50 participants were willing to complete this task so results are not reported here. The pre-test was conducted the week before instruction began and the post-test in the week following the intervention (see Table 3). Two tasks were used at each time point; an elicitation task (from Ionin et al., 2009) and an acceptability judgment task.

The elicitation task was a gap-fill administered using pen and paper. It contained 60 dialogues: six for each of the four target contexts plus 12 additional items related to article use, and 24 filler items. There was no time limit, and all participants completed this task in under 40 minutes. Learners were told to complete the gap in the dialogue with any suitable word or to write X if no word was required. Example items can be seen in (6-9).

6. [+definite, +specific]

At the end of a running race

Laura: Are you ready to leave?

Betsy: No, not yet. First, I need to talk to _____ winner of this
race – he is my good friend, and I want to congratulate him!

7. [+definite, -specific]

After a girls' tennis game at school

Child: Excuse me! Can you please let me in?

Coach: What do you need?

Child: I am a reporter for my school newspaper! I need to talk to
_____ winner of this game – I don't know who she is, so
can you please help me?

8. [-definite, +specific]

In a "Lost and Found"

Clerk: Can I help you? Are you looking for something you lost?

Customer: Yes... I realise you have a lot of things here, but maybe
you have what I need. You see, I am looking for _____
green scarf. My little granddaughter lost it here yesterday,
and she is very upset!

9. [-definite, -specific]

Rose: Will you come shopping with me this weekend?

Jen: Sure. Where do you want to go?

Rose: Oh, anywhere. I am looking for _____ warm hat. It's getting rather cold outside.

The judgment task, created for this study, targeted the same four contexts. The operationalisation of specificity used by Ionin et al. (2004, 2008, 2009) was modified for this task and also the teaching materials, as during piloting it became evident that sentences needed to be as simple as possible (see 'Teaching intervention', below, for details). The judgment task consisted of eight items for each context (four acceptable, four unacceptable) plus 18 fillers. Each item contained two sentences. The first sentence set a context and participants were asked to judge the acceptability of the second sentence in this context (see examples 10-13). To make items unacceptable, the definite article was changed to indefinite and vice versa, with two versions created so that participants would complete different versions at each time point. The task was delivered by timed PowerPoint³ with the aim of measuring implicit knowledge.⁴ Each participant had an answer sheet containing a scale (-1 or -2 for unacceptable sentences; +1 or +2 for acceptable sentences) that did not show the target sentences.

10. [+definite, +specific]

My favourite restaurant is called Casa Italiana.

This is because the chef / *a chef is my best friend.

11. [+definite, -specific]

I am watching some people run a 100m race.

When it ends, the winner / *a winner will receive a gold medal.

12. [-definite, +specific]

Mary must leave work early today.

She has an appointment / *the appointment with the dentist at 3pm.

13. [-definite, -specific]

Terry is buying things for his English course which starts tomorrow.

He needs a pen / *the pen and some paper as well as two books.

Teaching intervention

Instruction on the pre-session course was broadly similar for all groups, with the exception of the content of a 90-minute weekly grammar lesson which formed the intervention part of this study (see Table 3). The intervention consisted of three 90-minute lessons containing explicit instruction and practice

exercises (4.5 hours total). An explicit approach was used to match what teachers normally did during weekly grammar lessons on this course, and it appears that explicit Form-Focused Instruction (FFI) is common on pre-sessional courses in UK universities (Burgess & Etherington, 2002). All instruction took place over several weeks.

Insert table 3 here

The No Instruction group (n=17) were taught about sentence structure and prepositions during the intervention sessions. The Standard Instruction group (n=18) received FFI on definiteness using teaching materials from published English grammar books. The first lesson was three units from Collins Cobuild (1991). Each delivered one page of information about articles and one page of practice exercises. The first unit looked at determiners in general and their use with different types of nouns, plus one unit each for the definite and indefinite articles. The second lesson took exercises from two different books. Dean (1993) provides a page of information about the indefinite, definite and zero articles and lists common phrases that select a particular article. The final exercise was adapted from Hewings (2005), and provides further examples of article use with one error correction exercise focusing on uniqueness. All of these materials were

chosen for ecological validity, as they were already used within the particular teaching context where this study took place.

The Specificity Instruction group (n=15) received instruction on definiteness and specificity using newly-created teaching materials. To teach specificity to these low-level learners, Ionin et al.'s (2004) definitions of definiteness and specificity (1) were simplified into pedagogical definitions (14) and shared with both learners and teachers. To ensure the linguistically-informed teaching materials were accessible to teachers with no background in formal linguistics, five qualified, experienced teachers of English were shown early drafts and invited to comment. This led to a simplification of vocabulary in all items, plus Ionin's (2003) addition of 'noteworthy property' was dropped from the definition of specificity, as several teachers felt it was too abstract to be explainable to low-proficiency learners.

14. Definiteness and Specificity: pedagogical definitions

If a noun phrase is...

- a. [definite], then *both* the speaker *and* the listener can identify the noun, and answer the question 'Which one?'
- b. [specific], then the speaker is referring to one particular individual.

In order to contrast specificity and definiteness, definiteness was explained as 'shared knowledge' and taught in lesson one using this terminology (15).

15. To use the definite article '**the**', *both* the speaker *and* the listener must be able to identify the person/object being referred to.

e.g. I'll see you at 7pm outside **the** station.

Both the speaker and the listener know that there is a station near the university, therefore it can be identified.

Specificity was taught as 'speaker intent to refer', and example 16 shows how it was contrasted with definiteness in the teaching materials.

16. To decide if an article is **definite** or **indefinite** then look at the noun.

It is decided by shared knowledge between the speaker and listener
i.e. they can both identify which noun is being referred to.

To decide if an article is **specific** or **non-specific** then look at the complete sentence and put yourself in the mind of the speaker/writer.

It is decided by the speaker's intention– are they talking about one individual, or any individual in a group?

Learners were also given information aimed at avoiding errors in contexts where there is a mismatch between definiteness and specificity (17).

17. *the* can be specific/non-specific

a/an can be specific/non-specific

Some learners make errors because they think *the* = specific and *a* = non-specific.

This is not true!

Practice exercises were spread across the three lessons, and most involved pair work or group discussion. An example can be seen in (18).

18. With a partner, discuss the difference in meaning between the noun phrases in these pairs of sentences. Are they specific or non-specific?

i) Where did you leave the cake which you bought for dessert?

When you go shopping, please buy the cake with the most chocolate.

ii) That shop has closed; maybe a new café will open there instead.

There's a new café opened in town and I want to go there.

Throughout the lessons, learners were encouraged to ask questions, and there were no major issues with their understanding of the concept of specificity.

Results

A three-way (2x2x3) factorial ANOVA and Tukey HSD post-hoc tests were conducted on the pre-test scores to identify any group differences. There was a significant effect of group on both tasks, meaning the three groups differed significantly before the intervention (ET: $F_{2,188} = 6.41$, $p = .002$, partial eta-squared = .06, power = .90; AJT: $F_{2,188} = 28.99$, $p = .001$, partial eta-squared = .24, power = 1). The Tukey HSD post-hoc test on the ET data showed significant differences between the Specificity Instruction group and both the No Instruction (mean difference = 14.63, $p = .002$, 95% CI 4.80, 24.45) and Standard Instruction groups (mean difference = 10.9, $p = .039$, 95% CI .40, 19.79), with the Specificity Instruction group scoring significantly lower in both cases. For the AJT, the Standard Instruction group scored significantly lower than the No Instruction (mean difference = 20.58, $p = .001$, 95% CI 13.28, 27.87) and Specificity Instruction groups (mean difference = 20.38, $p = .001$, 95% CI 12.84, 27.92). Due

to these differences, the difference in proficiency scores (highlighted above), and the complexity of the data set, Repeated Measure (RM) ANOVAs were conducted separately for each group.

Elicitation Task

Pre-test and post-test results for the three learner groups can be found in Table 4, showing the mean percentage of correct article choice for each context. There is no evidence of reduced proficiency in contexts with a mismatch between definiteness and specificity, with, across the groups, only the No Instruction group showing reduced performance in the indefinite specific context. The No Instruction group improved in all four contexts between pre-test and post-test. Furthermore, all contexts had a mean accuracy above 85% at the time of the post-test. The RM ANOVA showed a significant effect of time ($F_{1,16} = 16.90$, $p = .001$, partial eta-squared = .51, power = .97) meaning the difference between the pre-test and post-test results was significant for the No Instruction group. Furthermore, there was a significant effect of specificity ($F_{1,16} = 35.94$, $p = .001$, partial eta-squared = .69, power = .10). There was no significant effect of definiteness, suggesting that participants performed similarly on definite and indefinite contexts, without significant interactions.

Insert table 4 here

The Standard Instruction group improved in two contexts ([+definite, +specific] and [−definite, −specific]) following the intervention. There was no change with the [+definite, −specific] context, and, following instruction, mean accuracy in the [−definite, +specific] context reduced from 73% to 68%. The RM ANOVA showed no significant effect of time at $p < .05$ ($F_{1,17} = 4.40$, $p = .051$, partial eta-squared = .21, power = .51). There was a significant effect of specificity ($F_{1,17} = 19.12$, $p = .001$, partial eta-squared = .53, power = .98), and a significant three-way interaction between time, definiteness, and specificity ($F_{1,17} = 14.89$, $p = .001$, partial eta-squared = .47, power = .95). This interaction means that time affected the relationship between knowledge of definiteness and knowledge of specificity. In other words, the interaction between these two types of knowledge was different at the pre-test and post-test.

The mean results for the Specificity Instruction group are superficially similar to those for the No Instruction group as both groups of participants improved in every context. A RM ANOVA showed a significant effect of time only ($F_{1,14} = 11.07$, $p = .005$, partial eta-squared = .44, power = .87) meaning the difference between the pre-test and post-test results was significant. There was no significant effect of definiteness or specificity, although the power for these

measures was below .10. However, both measures also showed a small effect size, meaning that an increase in power by testing a larger number of participants would not necessarily lead to a statistical result. There were no significant interactions. The two-way interactions between time and specificity, and definiteness and specificity, as well as the three-way interaction between time, definiteness and specificity also had a power level below .10 and small effect sizes.

One further noteworthy result for the ET was that the RM ANOVAs showed a significant effect of specificity for the No Instruction and Standard Instruction groups, but not for the Specificity Instruction group. However, there was no interaction between time and specificity in the results for the Specificity Instruction group, suggesting that this difference between the groups existed before any intervention so cannot be attributed to the instruction on specificity.

Judgment Task

As in the previous section, results will be presented for each group in turn. Two of the groups (Standard Instruction and Specificity Instruction) were less accurate with the indefinite specific context at the time of the pre-test, whilst none of the groups presented their lowest accuracy with definite non-specifics. The No Instruction group improved in all contexts between the pre-test and post-

test, and this result was significant ($F_{1,16} = 10.92$, $p = .004$, partial eta-squared $=.41$, power $=.87$). Overall, the improvement in accuracy between the pre-test and post-test scores was relatively small and a pairwise comparison showed the mean difference to be 7.34 ($p = .004$, 95% CI 2.64, 12.07). There was no significant effect of definiteness or specificity, and there were no significant interactions. Table 5 shows the mean percentage of correct article choice for each of the four contexts measured by the judgment task.

Insert table 5 here

One of the 18 participants in the Standard Instruction group selected the ‘can’t decide’ response for 58% of items at pre-test and was excluded from further analysis for this task. Results are for the remaining 17 participants. The pre-test results were below 50% in all four contexts, which is considerably lower than the results for the other two groups. There was an improvement in the mean percentage of correct choice of articles in all four contexts, which mirrors that of the No Instruction group, and the RM ANOVA showed a significant effect of time ($F_{1,16} = 30.92$, $p = .000$, partial eta-squared $=.66$, power $=1$). There was also a significant effect of specificity ($F_{1,16} = 15.91$, $p = .001$, partial eta-squared $=.50$,

power =.96), but no significant effect of definiteness and no significant interactions.

The 15 participants in the Specificity Instruction group made a small decrease in accuracy in three out of the four contexts on the judgment task, and a RM ANOVA showed no significant effects or interactions. This is the only group, on either of the tasks, which did not improve between the pre-test and post-test ($F_{1,14} = 3.97$, $p = .066$, partial eta-squared =.22, power =.46). The low power for the inferential statistics means that a larger sample size may have provided a significant result. In addition, there was a large effect size. This means that the reduction in accuracy in the results of the Specificity Instruction group is important.

Discussion and Conclusions

At pre-test, the three groups showed similar patterns of accuracy despite significant differences in their overall scores. Across the groups, there was no consistent pattern of reduced accuracy in definite non-specific or indefinite specific contexts on either task, which goes against predictions based on the FH (Ionin et al., 2004) and the updated proposal from Ionin et al. (2009) for overuse of *the* in indefinite specific contexts. The reasons for this are unclear, although the learners' L1 (Mandarin Chinese) may be a factor, as discussed above.

However, an explanation of the theoretical implications of this unexpected finding goes beyond the scope of the current paper.

In terms of the teaching intervention, results suggest that instruction on specificity was not beneficial for low-intermediate Chinese learners of English, at least how it was designed and implemented in this study. Learners in the Specificity Instruction group improved significantly on the elicitation task, a task used in previous research which is intended to measure explicit knowledge. However, their post-test scores were generally lower than the pre-test scores of the other two groups, as they had begun the intervention with significantly lower scores. Therefore, this improvement could merely indicate improved proficiency due to attendance on an intensive, skills-based language course. On the judgment task, this same group of learners showed a decrease in accuracy with a large effect size following instruction on definiteness and specificity.

In other words, when placed under time pressure, the learners' performance worsened following the intervention. One explanation is that learners were attempting to apply their recently learnt knowledge of specificity when completing the task, which was not possible since they had less than 25 seconds to respond to each item. At the time of the pre-test, the same group of learners had no awareness of specificity and so are assumed to have depended on their implicit knowledge of articles to complete this task (following Ellis, 2005).

Concerning the question of whether explicit instruction can target implicit knowledge, it is difficult to make a concrete claim due to the lack of a long term measure in the current study (as explained above). The performance of the Specificity Instruction group on the timed judgment task suggests that, under the conditions of this study, explicitly learnt knowledge did not become implicit. However, it is impossible to predict how this explicitly learnt knowledge may have gone on to develop after the study concluded.

As stated, results for the group who received instruction on definiteness and specificity differed for the two tasks, and also differed from both the No Instruction and Standard Instruction groups, suggesting that instruction on specificity is not beneficial. However, this finding may result from how specificity was operationalised in the current study. Limitations of both the intervention design and the judgment task include the simplification of the concept of specificity in the teaching materials, as explained above, the removal of Ionin's (2003) concept of 'noteworthy property' from the teaching and testing materials, and the need to develop lexically-simple items which would not present difficulties for these learners. As with all pedagogical grammars, these simplifications resulted in changes to the construct being tested and so, whilst the materials were linguistically-informed, they cannot fairly be described as linguistically-accurate.

Both instructed groups received 4.5 hours of explicit instruction on the target form embedded into an intensive 10-week academic English course consisting of mostly skilled-based lessons. As far as possible within the design of the study, the teaching interventions were intended to mimic real classroom instruction. Despite this, the quantity of instruction went beyond the time many teachers would spend focusing on one grammatical feature. The treatment consisted of explicit, form-focused instruction on articles; chosen to match what the teachers on this course usually do during weekly grammar lessons. The significant improvement of the No Instruction (control) group suggests that there was also no overarching benefit of explicit instruction on definiteness using standard published materials. The control group had continued exposure to articles in the input, and teachers across all three groups were permitted to correct learners' use of articles in written work submitted for formative assessment. Despite this, their improvement in a relatively short period of time was unexpected. Compared to results for the two treatment groups, this suggests that learners at this level of proficiency and linguistic background do not benefit from explicit instruction on the English article system, which contradicts previous research from Master (1994, 2002) and Akakura (2012) who found positive effects of article instruction.

A further aim of the current study was to evaluate how complex linguistically-informed information about specificity could be communicated to low-proficiency L2 learners of English. Introducing these low-level learners to the concept of specificity increased the complexity of the instruction and surely contributed to the reduction in accuracy on the timed judgment task. At the same time, simplifying linguistic definitions to make them comprehensible to low-level learners and their teachers meant changing core elements, and this may have contributed to the difficulties the learners experienced. This issue needs to be considered for future interventions that target learners of this level. However, as Norris and Ortega (2000) point out, one intervention study will not provide all of the answers and there is a need for different examinations of instructional treatments. This especially applies to linguistically-informed instruction since, to date, there have been relatively few studies of this type. Despite the issues with the current study, any attempt to strengthen the links between theory and practice is surely of benefit to both parties. The practitioners I worked with learnt more about the complexities of language, and as a researcher I began to recognise the difficulties involved in developing materials which are both linguistically-accurate yet simple and clear enough for L2 learners.

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Table 1. Predictions for article choice in L2 English (from Ionin et al., 2004, p.19)

| | +definite (target <i>the</i>) | –definite (target <i>a</i>) |
|-------------------|--------------------------------------|------------------------------------|
| +specific | correct use of <i>the</i> | overuse of <i>the</i> |
| – specific | overuse of <i>a</i> | correct use of <i>a</i> |

Table 2. Characteristics of L2 Learners

| | No Instruction | Standard Instruction | Specificity Instruction |
|------------------|---------------------------|-----------------------------|--|
| Number | 17 (6 male, 11 female) | 18 (9 male, 9 female) | 15 (7 male, 8 female) |
| Age | 21–29 M= 23.53 | 20–25 M= 22.56 | 21–33 M=24.20 |
| Oxford QPT Score | 21–30 M= 25.65 | 16–27 M= 22.06 | 17–27 M=21.77 (<i>n</i> =13) ⁱⁱⁱ |

Table 3. Data collection procedure for all groups

| Week | No Instruction group | Standard Instruction group | Specificity Instruction group |
|-------------|--|--|---|
| 1 | Proficiency test (Oxford Quick Placement Test) | | |
| 2 | 2 pre-tests completed | | |
| 3 | Alternative grammar instruction (90 minutes) | Instruction on definiteness (90 minutes) | Instruction on definiteness (90 minutes) |
| 4 | Further instruction (as above) | Homework review/ follow up (90 minutes) | Instruction on specificity (90 minutes) |
| 6 | Further instruction (as above) | Further instruction (as above) | Error correction exercise with some focus on definiteness and specificity |
| 7 | Further instruction (as above) | Homework review/ follow up (90 minutes) | 2 post-tests completed |
| 8 | 2 post-tests completed | | |

Table 4. Mean percentage of correct article choice in the Elicitation Task

| Context | No Instruction <i>n</i> = 17 | | Standard Instruction <i>n</i> = 18 | | Specificity Instruction <i>n</i> = 15 | |
|-------------------------|--|------------------------|--|------------------------|---|------------------------|
| | Pre-test | Post-test | Pre-test | Post-test | Pre-test | Post-test |
| +definite, +specific | 75.49 sd= 17.79 | 91.17 sd= 10.41 | 64.81 sd= 20.52 | 81.48 sd= 19.71 | 59.99 sd= 29.41 | 80.00 sd= 22.00 |
| +definite, -specific | 84.31 sd= 17.15 | 93.14 sd= 13.25 | 83.33 sd= 22.87 | 83.33 sd= 18.96 | 61.11 sd= 27.94 | 73.33 sd= 30.73 |
| -definite, +specific | 71.17 sd= 29.56 | 85.29 sd = 15.46 | 73.15 sd= 28.66 | 67.59 sd = 26.49 | 66.66 sd= 25.97 | 70.00 sd = 30.34 |
| -definite, -specific | 85.29 sd= 11.61 | 90.19 sd= 10.31 | 76.85 sd= 23.67 | 90.74 sd= 11.75 | 70.00 sd= 20.12 | 73.33 sd= 19.72 |

Table 5. Mean percentage of correct judgment of article use in the Judgment Task (grammatical and ungrammatical conditions combined)

| Context | No Instruction <i>n</i> = 17 | | Standard Instruction <i>n</i> = 17 | | Specificity Instruction <i>n</i> = 15 | |
|-------------------------|--|------------------------|--|------------------------|---|------------------------|
| | Pre-test | Post-test | Pre-test | Post-test | Pre-test | Post-test |
| +definite, +specific | 69.85 sd= 15.97 | 77.94 sd= 17.42 | 41.91 sd= 14.62 | 55.88 sd= 21.25 | 65.00 sd= 15.81 | 48.33 sd= 19.40 |
| +definite, -specific | 63.24 sd= 20.00 | 63.97 sd= 18.69 | 44.85 sd= 20.76 | 71.32 sd= 18.63 | 60.00 sd= 21.23 | 55.00 sd= 10.35 |
| -definite, +specific | 56.62 sd= 17.74 | 63.24 sd = 20.00 | 33.09 sd= 12.45 | 58.09 sd = 25.36 | 55.00 sd= 19.36 | 55.83 sd = 14.07 |
| -definite, -specific | 54.41 sd= 17.65 | 68.38 sd= 19.82 | 47.06 sd= 20.51 | 65.44 sd= 22.76 | 63.33 sd= 19.75 | 50.00 sd= 17.03 |

¹ See Akakura (2012, Table 1, p. 12) for a full list of studies measuring article instruction between 1994 and 2009.

² Two participants in the Specificity Instruction group had their proficiency test scores discounted as they were late arriving for the test, meaning that only 13 participants from this group had their proficiency measured.

³ Participants had 6 seconds to read the first sentence, then the second sentence appeared and both remained on screen for 16 seconds. Timing was set after piloting demonstrated that this allowed enough time for participants of this proficiency level to read both sentences once. An auditory cue signalled the transition to the next sentence, in order to refocus attention from the response onto the next item.

⁴ The author recognises the ongoing debates about how to best operationalise and measure implicit knowledge, but refers to Ellis (2005) who states that time pressure makes it unlikely that learners have time to access their explicit knowledge.