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Countability and confusion: Helping students with English as an additional language to understand the English article system

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Academic language and learning (ALL) practitioners are frequently asked by students for help with English grammar, but are not equipped to answer questions in detail. This study examines an explanation of the English article system (*a/an/the*) for adult high intermediate level university students (average IELTS score 5.5) with English as an Additional Language (EAL). The aim was to inform ALL practice by determining which articles are most difficult for EAL students to use correctly. Participants (*n* = 297) were given a pretest from which twenty articles had been deleted, followed by a teaching session and a posttest. A comparison of pre- and posttest scores indicated some improvement in definite and indefinite article usage, although the indefinite article was more problematic than the definite article. It is recommended that ALL practioners working with upper intermediate level students concentrate on countability, first use indefinite articles and the correct use of the definite article followed by 'of' or a relative clause. Occasions when nouns are not preceded by articles should also be highlighted. The study challenges ALL advisors to investigate particular problems in other areas of English grammar in order to understand their students' difficulties and provide better ALL support.

Key Words: academic language and learning practitioners; countability; definite article; English as an additional language; indefinite article.

1. Introduction

Academic language and learning (ALL) advisors enter the profession from a wide range of backgrounds. While some may be trained teachers of English as an Additional Language (EAL), others may have come from different disciplines. This means that when students raise questions about grammar, advisors may not be equipped to answer them, or to understand the problems underlying the questions. While English has many varieties, and 'correctness' may differ in different countries (for example, the past perfect form is used much more in Singaporean English than in Australian English), lecturers in different disciplines may still perceive any deviations from the norm as indicative of not only of a poor command of English but of poor content knowledge. When actual errors are widespread and cause a breakdown in communication, the student may be at risk of failing a course.

One area of particular difficulty for EAL students is the English article system (Jian, 2013, p. 56; Liu & Gleason, 2002, p. 2; Master, 1990, p. 461). ALL advisors, and EAL teachers generally, have trouble explaining its intricacies, beyond advising students that nouns can be singular or

plural and that some nouns are 'specific' or 'definite' depending on 'shared knowledge'. Definiteness, however, is a very vague concept. Why do 'the 1990s' and 'the Philippines' take a definite article, while '1991' and 'Australia' do not? How can we 'share knowledge' about who 'the prime minister' is when the person in this role varies from country to country and, with sometimes alarming frequency, within a country? To discuss these issues, it is necessary to examine the English article system in more detail. The following literature review is intentionally comprehensive, challenging the reader to get to grips with a system that is likely to be only vaguely understood by many native speakers of English. It is written not just for grammarphiles, but for all those who have tried to explain *a*, *an* and *the* to students whose own language does not contain these words. Before starting, it may be instructive for the reader to write down all they know about English articles and all they would teach an EAL student. This will allow an evaluation of their current knowledge and, it is hoped, provide an insight into a fascinating area of English grammar that is at the core of accurate English expression.

Following the literature review, this paper reports on a lecture for high intermediate level international students using an instructional video and an article choice chart. The effectiveness of the lecture materials was measured by a pretest and a posttest. The findings lead to a discussion of the relative difficulty of each article type for learners. This discussion helps ALL advisors to understand the types of errors their students might make with articles and to direct them to resources that can help.

A wider implication of the study is that if EAL university students can be helped with one very challenging area of English grammar, this encourages us as advisors to approach other problematic areas with greater confidence and to learn more about areas of particular difficulty so that we can improve our own knowledge and practice.

2. Literature review

There is debate over the number of articles in English, but most researchers (e.g. Chesterman, 1991; Master, 1997) refer to the basic categories of *a/an*, *the*, zero and null articles, with at least one author (Chesterman, 1991) including the word *some*. *A/an* is referred to as the *indefinite article*, while *the* is known as the *definite article*. 'Zero' and 'null' refer to two types of use when a noun is not preceded by a definite or an indefinite article. All these categories are examined in greater detail below. Countable nouns may take a zero, null, definite or indefinite article, while uncountable nouns can take only null or definite articles.

One of the key features in teaching article use, therefore, is countability. Countability is in fact indicated in all the advanced English learner's dictionaries, although Chesterman (1991) suggests that this makes too simplistic a division between countable and uncountable nouns, failing to account for the numerous exceptions. Butler (2002) also says that it is not helpful to consult lists of countable and uncountable nouns, as many change depending on meaning and context. The noun *experience*, for example, may be countable (*I had some illuminating experiences when I worked at Failproof University*) or uncountable (*We are looking with someone who has experience in editing*). Master (1997, p. 218), however, states that an understanding of countability is important for correct use of the indefinite article. Indeed, for EAL learners, guidance of some kind may be necessary if they are to attempt to use articles correctly. This paper therefore examines whether learner instruction in countability and article use does in fact help.

A singular countable noun may be preceded by a definite or indefinite article. In the case of indefinite articles, *a* precedes a consonant sound (*a bird*, *a uniform*) and *an* precedes a vowel sound (*an egg, an hour*). This distinction between *a* and *an* is often unclear to students, as evidenced by anecdotal feedback from participants in the following study. Mass uncountable nouns may take *a* when they refer to a portion (*a [glass of] beer*) or a variety (*a [type of] beer*) (Lyons, 1999, p. 188), exemplifying how the indefinite article "reduces the wide, vague notion of the bare noun to

a singular instance" (Hewson, 1972, p. 98). Indefinite and definite articles may be learned independently of each other (Master, 1997, p. 218), although instruction in using the indefinite article is not always productive (Pica, 1985, p. 217). However, Shintani and Ellis (2013, p. 302) found that their group of 49 low-intermediate proficiency learners in the US, exposed to feedback via metalinguistic explanation, showed short-term improvement in their use of the indefinite article.

Hearer and speaker knowledge is another important area. In an early study, Christopherson (1939, pp. 28-30) refers to such knowledge in determining whether to use a definite article. Shared knowledge may be established through an "explicit contextual basis" (*a tailor/the tailor*), an "implicit contextual basis" (*a tailor/the man; a country/the king*) or a "situational basis" (*a train/the ticket collector*) (Christopherson, 1939, pp. 29-30). Nevertheless, shared knowledge is a complicated abstract phenomenon. Hawkins (1978) sees the familiarity theory of shared knowledge as "too restrictive" (p. 99), while Chesterman (1991, p. 2), drawing on Hawkins' location theory and referring also to Guillaume, presents definiteness "as a matrix of three binary features …: locatability in a shared set (having to do with familiarity), inclusiveness (quantity), and extensivity (abstractness and generality)". Butler (2002, p. 473) says that hearer knowledge depends on at least one of four things:

> (a) only one of its kind must exist in the universe, (b) the reference must have already been introduced by the speaker, (c) a previously introduced nominal must evoke a mental association with the reference based on some world knowledge, or (d) extralinguistic knowledge must make it possible for the hearer to identify the reference (e.g. by pointing to an object). If the speaker's intended reference is not countable, then there are no discrete members in the set; in this case, the reference denotes the entire set, and the hearer can identify it.

That is an incredibly large amount of information for a learner to process, and indeed the Japanese participants in Butler's study, although they expressed rules about article use, actually used articles "without … having a clear understanding of how SR [specific reference], HK [hearer knowledge], and countability were related to each other in the English article system" (2002, p. 464). There is thus a great need for clarification in this area, but it must be admitted that the notion of definiteness is a complicated one.

The question of definiteness has prompted extensive research in the English article system. Hawkins (1978, pp. 107-148), in an oft-quoted analysis, gives eight uses of the definite article, paraphrased here using his examples:

1. Anaphoric (a book/the book)
2. Visible situation use ("Pass me the bucket" – with the implication that the speaker and hearer can both see the bucket in question)
3. Immediate situation use ("Don't go in there, chum. The dog will bite you.")
4. Larger situation use, specific knowledge ("the Prime Minister"), where people share cultural knowledge, such as knowing who the prime minister is.
5. Larger situation use, general knowledge ("the Prime Minister"), where people know that a country has a prime minister but may not know the person's name.
6. Associative anaphora (a wedding/the bride)
7. "Unfamiliarity examples", including "Referent-establishing relative clauses" ("the woman that Bill went out with last night"); "Associative clauses" ("the bottom of the sea"); noun phrase complements ("Bill is amazed by the fact that there is so much life on earth"); and nominal modifiers ("I don't like the colour red").
8. "Unexplanatory modifiers" (the first, the same)

This scheme is helpful, but does not account for all uses of the definite article, such as emphatic *the* (Epstein, 1998). Further to this list, Master (1986) presents a comprehensive teaching and learning resource which includes detailed examples of most uses of English articles (see Table 1). This scheme does not distinguish between the zero and the null article, as in Master's later work (e.g. 1997), but such a distinction may not be necessary for most EAL learners.

Table 1. Uses of the indefinite, definite and zero article in English (Master, 1986, passim, with his examples in italics)

Indefinite article	Definite article	Zero article
idiom usage (*a few*)	superlative ranking adjective (*the best*)	idiom usage (*few*)
definitions (*A cow is a farm animal*)	body parts in medical English (*In this patient, <u>the</u> heart is still quite strong.*)	unfocused singular countable generic nouns (*Food is classified as carbohydrate, fat, and protein.*)
first mention of a countable noun (*a book*)	sequential ranking adjective (*the second*)	*how, so, as, too,* and *no less*
partitive *of*-phrases (*a molecule of sulfuric acid*)	prepositional *of*-phrases (*the circumference of a circle*)	partitive *of*-clauses (*isotopes of uranium*)
rates (*five times a week*)	unique ranking adjective (*the same, the only*)	time expressions and events (*by day*)
	shared world knowledge (*the sun*)	prepositions followed by institutions (*to church*)
	shared cultural knowledge (*the radio*)	transport (*by car*)
	shared regional knowledge (*the park*)	certain traditional phrases (*in fact, at last*)
	relative clauses (*the experiment that was performed*)	rank, title, or unique post (*Mrs Pirelli, director of the institute, welcomed the visitors.*)
	prepositional phrases (*the experiment in progress*)	some proper nouns referring "to certain geographical features (areas, continents, valleys, and the singular form of islands, lakes, and mountains) or (2) to certain cultural features (holidays, parks, and streets)" (p. 247)
	some proper nouns referring to "certain geographical features, including oceans, rivers, canals, deserts, forests, and the plural form of islands, lakes, and mountains" (p. 247)	some cultural institutions beginning with a family name (*McGill University*)
	some proper nouns referring to "certain cultural institutions (associations, commissions, libraries, and museums)" (*the University of Ohio*)	most diseases (*flu*)
	some common diseases (*the flu*)	after noun phrases with *be* or a "naming" verb (*Dr Packer is chairman of the physiology department.*)
	adverbial *the* (*all the more*)	

Jobs can be added to this very comprehensive list (*she is a teacher*). In addition, it should be pointed out that definitions can also take *the* or no article. For example, *a cow is a farm animal* means that any single example of a cow is a farm animal, while *the cow is a farm animal* means that the cow as a species is a type of farm animal and *cows are farm animals* means that all cows are farm animals. The last example, *cows are farm animals*, is preceded by a zero article.

For an EAL learner, the categories of zero and null article present a further complication, adding to the confusion between definiteness and indefiniteness. Master calls the zero article "the most indefinite of the articles" (1997, p. 222) and "the most frequently occurring free morpheme in the English language" (p. 221). He lists six functions of the zero article with a noun (1997, p. 222):

> first mention (*Men* are fools); general characteristics (*Snails* have *shells*); existential *there* (There are *holes* in your socks); defining postmodification (*Cars* from Japan are reliable); partitive of-phrases (We drank *gallons* of coffee); and intentional vagueness (*Capitals* of nations are rich.)

The null article, on the other hand, names a "one-member set" (Master, 1997, p. 223, following Chesterman, 1991) and "occurs with singular count nouns in alternation with definite *the* and with singular proper nouns". Master refers to the null article as "the most definite of the articles" (1997, p. 223). For example, in the sentence "Mr Jones was appointed chairman", the words *Mr Jones* and *chairman* are preceded by a null article.

Although the distinction between the zero and null article is important for linguists and those studying the article system in great depth, it may be sufficient to refer simply to 'zero article' use for the purposes of teaching the system to students, as in Master (1986). This is an area for further research. Lyons (1999, p. 34), in fact, questions the need for a zero plural and mass article category. This paper, which focuses on teaching high intermediate level EAL students, uses the term 'zero article' to refer to the fact that no article is used before a noun, conflating the zero and null articles in order to simplify the area for learners.

Since there is debate among linguists over the classification and use of articles in many situations, it follows that EAL learners may find some articles easier to use than others. Yoo (2009, p. 273), for example, traced different uses of *the* across registers. For academic texts, he suggests that *the* is used for references that are cataphoric (looking forward to another word in the text) (40%), anaphoric (looking back to a previous word in the text) (25%), indirect anaphoric (15%), situational (10%), generic (5%), uncertain (5%), and "idiom" (less than 2.5%). Liu and Gleason (2002, p. 6) add that "the nongeneric use of *the* is much more complex and hence more problematic for ESL students than the generic use" (p. 6). Yamada and Matsuura (1982) found that Japanese advanced EAL learners had most trouble with the indefinite article, while correct use of the definite and zero articles increased for both intermediate and advanced students in their study. Nevertheless, overuse of the definite article remained a problem for their students. Díez-Bedmar and Pérez-Paredes' (2012) Spanish L1 students also overused the definite article, as did Ko, Ionin and Wexler's (2010) Korean students, who overused *the* for partitive indefinites (such as *a puppy*, where the plural *puppies* appeared earlier in the passage). Master (1987), however, found that Japanese and Chinese speakers in his study overused the zero article. In Master's later (1995) study, the largest number of errors was found in the use of no article in place of the definite article, especially in the case of unexplanatory modifiers (*the best*, *the first*, *the same*).

In a study by Miller (2005), 41 international students at an Australian university completed a pre- and posttest involving two exercises from which articles had been omitted and in which students were required to insert articles where necessary following a teaching session on the use of articles in English. The biggest posttest improvement was shown in the insertion of the definite article in 35 cases where the students had previously used the indefinite article or no article at all. The biggest incorrect change was the removal of the definite article in nine cases where it had origi-

nally been correctly used, and the removal of the indefinite article in six cases where it was initially correct. These changes indicated misunderstanding of the countability status of some nouns and an inability to locate the relevant noun in the case of possessives.

The use of articles is therefore clearly problematic for EAL students, but does it make a vital difference to their communication? Although L1 speakers of English use articles automatically, by means of a kind of "psychomechanism" (Hewson, 1972, p. 132) or "psycholinguistic mechanism" (Master, 1997, p. 220), the communicative necessity of article correctness has been questioned (Trenkić, 2001, p. 126). Nevertheless, for EAL students it cannot be denied that "article errors may undermine the author's integrity because they reveal an imperfect control of the language" (Master, 1997, p. 216). Master (1986) therefore recommends that language teachers give their students instruction in order to help them make an informed choice on correct article usage.

The correct use of articles cannot be learnt at a single sitting, however (Master 1997, p. 228). In fact, there is debate over whether instruction is helpful at all, as in Pica's (1985) study of 18 Spanish speaking students in the US, whose use of the indefinite article did not seem to be improved by instruction. However, Pica's paper does not detail the amount or type of instruction given, and it was written during the period of greatest debate over the value of grammatical instruction in communicative language teaching. Morgan (2017) also questions the value of explicit instruction on articles. Miller's (2005) study, by contrast, showed an immediate increase in article correctness at the end of a single session, but instruction in that study built on students' previous knowledge and, in addition, no follow-up study was conducted to measure long-term benefits of the session. It is suggested, however, that learners of a high intermediate level be given long-term instruction in conjunction with other language development (Master, 1997, p. 228). This supports Fotos' recommendation (1994, p. 343) regarding "grammar consciousness-raising tasks", Schmidt's concept (1990) of "noticing" and Batstone and Ellis's suggestion (2009, p. 197) that instruction is beneficial for areas of grammar that do not exist in a learner's first language, such as articles. Resources that support such instruction could thus be beneficial for students who want to demonstrate good control of English in academic writing.

Given the difficulties of learning the English article system, and the debate around the efficacy of grammar instruction, this study posed the following research questions:

1. Does explaining the uses of English articles make a difference to EAL students' use of these articles in a test situation?

Independent of this question, and to provide data for future resources and research, the second research question asked:

2. Which articles in the study were most difficult for students to use?

3. Material and methods

Master (1986, p. 1) says that in order to determine the need for an article in English, four questions must be asked: "1. Is the noun countable or uncountable? 2. Is the noun definite or indefinite? 3. Is the noun generic or specific? 4. Is the noun common or proper?" Based on a simplified version of these questions, a basic chart was devised by the researcher to prompt students to consider if an article is necessary (see Figure 1).

The article uses from Master (1986) were then incorporated into a humorous video story. One aim of the video was to make learning English more enjoyable, since enjoyment is a key part of effective learning (Wong & Nunan, 2011, p. 151) and may help students to engage better with grammar instruction, which is traditionally seen as "boring" (Jean & Simard, 2013. p. 1034). The chart, explanation, video and accompanying exercises can be viewed at www.ade-laide.edu.au/english-for-uni/articles/. At the start of the video, a character is seen reading a text which contains all the article uses (from Master, 1986) to be addressed in the following teaching

materials (see Appendix A). The text she is reading also appears on the screen, with the articles in a different colour font. The articles are recycled in the story as it progresses.

Singular countable noun		**Plural or uncountable noun**	
|		|	
Is the noun definite?		Is the noun definite?	
|	|	|	|
Yes	No	Yes	No
|	|	|	|
Use 'the'	Use 'a/an'	Use 'the'	Use no article

Figure 1. Chart to prompt choice of the right article (based on Master, 1986, p. 1)

3.1. Participants

The participants in the study were a convenience sample undertaking a preparatory English program prior to enrolling in undergraduate or graduate degree courses at an Australian university. The students attended a lecture based on the researcher's materials. The majority of students were from China (304), but there were also students from Brazil (17), Chile (1), Colombia (1), Hong Kong (1), India (1), Indonesia (2), Iraq (3), Japan (2), Libyan Arab Jamahiriya (1), Mozambique (1), Pakistan (1), Russian Federation (1), Saudi Arabia (5), Thailand (2) and Vietnam (6). Twenty of these students had articles in their first language (Spanish and Portuguese), but these are not used identically to English articles. The average global IELTS score of each participant was 5.5, placing them in the high intermediate level (comparable to CEFR B2, Cambridge ESOL FCE, and TOEFL 500) (Gillett, 2013). Ages ranged from 18 to 51, with an average age of 23, and males and females were evenly represented. Of the 349 students in the lecture, 297 returned completed tests at the end of the session.

3.2. Measures

Students in the lecture were given a pre- and posttest text (see Appendix B), and requested to insert articles in the text where necessary. The pretest was given at the start of a one-hour session and was followed by article instruction using the video at www.adelaide.edu.au/english-for-uni/articles/. The students then completed the posttest, still in the lecture theatre, and returned their tests to the researcher, who was present throughout the session. Participants were instructed not to discuss their answers with each other, or to make changes to their pretest answers at the end of the session, but this could not be completely controlled. Ethics approval for the study had previously been obtained from the university's Human Research Ethics Committee, and all students received information and complaints procedure sheets, and signed a consent form. The number of students who returned completed pre- and posttests was 297.

Passage 1 in the test was based on the introduction to the *Macmillan English dictionary for advanced learners* (2002) and had 16 underlined gaps of consistent length (each with three underscores). Thirteen of these spaces required an article; three did not. (For a similar approach, see Master, 1997, p. 231). Passage 2 was based on a paragraph from Hay, Bochner and Dungey's book for university students entitled *Making the grade* (1997). Four articles were removed from Passage 2, but underlined spaces were not given (as in Liu & Gleason, 2002). Each passage was piloted on six adult L1 speakers of English, all educated to at least Honours degree level, in order to determine a consensus on the use of articles in the text. In the first pilot, all the articles were removed from the passages and the L1 speakers were requested to add articles where necessary.

After each pilot test, missing articles were re-inserted in the text wherever the native speakers disagreed over the need for an article. (For example, in *The 1980s saw **the** development of the first large corpora*, some L1 speakers wrote *a development*, others wrote *the development*, and others omitted the article altogether. The article was therefore retained in the final test passage because there was no consensus among L1 speakers over its use or omission.) The fifth version of the text achieved consensus among L1 speakers, and was used in the pre- and posttests (see Appendix B). For this reason, the types of articles omitted in the passages do not cover all the possible types of article use, as some proved too controversial among L1 speakers. It would have been possible to construct a passage mirroring every kind of article use, but this would not have been an authentic text. This dissension on article use by L1 English speakers could form a future study of its own.

3.3. Procedure

The students were in a lecture theatre when they completed the pre- and posttests and were not allowed to use dictionaries or mobile devices. This meant that they did not have access to online or paper dictionaries (as in Liu & Gleason, 2002), and so could not check the countability of a noun, which is an important indicator of potential article use. The use of a dictionary may not have benefited them, however, as Miller's (2006) study indicates only a small improvement in a pre- and posttest for which students had access to learners' dictionaries.

3.3.1. Design

This study was evaluating an a priori hypothesis that instruction in article use would improve students' performance from pre- to posttest. Using a within-subjects design, the difference in participants' pre- and posttest scores was analysed using a dependent samples *t*-test (Field, 2013). The study also aimed to identify which articles were most problematic for students, as evidenced by their continued failure to use these articles correctly after instruction. Levels of difficulty were determined by comparing the percentages of correct and incorrect answers for each item in the pre- and posttest.

3.3.2. Variables

The conditions of the study were controlled as far as possible, although each student obviously brought with them a range of previous English language learning experiences. All participants had been in Australia for between 2 and 20 weeks. They spoke a range of first languages, although the majority were Chinese L1 speakers. Since the aim of the study was to isolate articles which cause most difficulty for language learners generally, the results were not analysed according to speakers' L1.

4. Results

To get an initial overall measure of the impact of the instructional session, students' responses were marked out of 16 for passage 1 and out of 4 for passage 2 on the pre- and posttests. Incomplete answers were removed from the data set, and the difference in participants' pre- and posttest scores for both passages was assessed using a dependent samples *t*-test.[1] As can be seen from Table 2, both the gap-fill (Passage 1) and the non-gap exercise (Passage 2) showed a statistically significant improvement in the mean number of correct scores. For the gap-fill exercise, Cohen's *d* was 0.43, while for the non-gap exercise Cohen's *d* was 0.28. The effect size of 0.43 is above average (Hattie, 2005, p. 16), and therefore educationally significant. The effect size of 0.28 represents a small educational significance. Although the average improvement was slightly less than

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[1] Histograms of the difference scores on both passages were observed to be approximately normal, as is required for a dependent samples *t*-test to be valid.

1 article, more impressive gains were made in some items than others (see Table 3), and by the students with the lowest pretest scores, as revealed by the bubble charts (scatterplots) for Passages 1 and 2 (see Figure 2). Note also from Table 2 that the standard deviations of the differences in scores are considerably larger than the mean differences for both passages, indicating that many students in fact performed somewhat worse at posttest than they did at pretest (note in Table 3 the percentage of students going from correct to incorrect for each item). Possible reasons for this are discussed below.

Table 2. EAL students' ($n = 297$) pre- and posttest scores for two passages testing the use of articles. Passage 1 had gaps indicated; passage 2 had no gaps indicated. M_d (SD) represents the mean and standard deviation of the posttest minus pretest result for each student.

	Pretest	Posttest	Difference Scores				Normalised Gain
	M (*SD*)	*M* (*SD*)	M_d (*SD*)	*t*(296)	*p*	Cohen's *d* [a]	*g* [b]
Passage 1	11.9	12.7	0.83	8.31	< .001	0.43	19.5%
(Max. score = 16)	(1.95)	(1.85)	(1.72)				
Passage 2	2.25	2.55	0.31	4.98	< .001	0.28	17.1%
(Max. score = 4)	(1.09)	(1.07)	(1.06)				

[a] There is some divergence of opinion in the literature as to what standard deviation to use as the standardiser for a dependent samples Cohen's *d*, but following Cumming (2013) it is taken here to be the mean difference divided by the pretest standard deviation.

[b] *g* = (posttest mean – pretest mean)/(max. score – pretest mean) × 100%. I.e. *g* equals the mean gain expressed as a fraction of the maximum mean gain possible, expressed as a percentage.

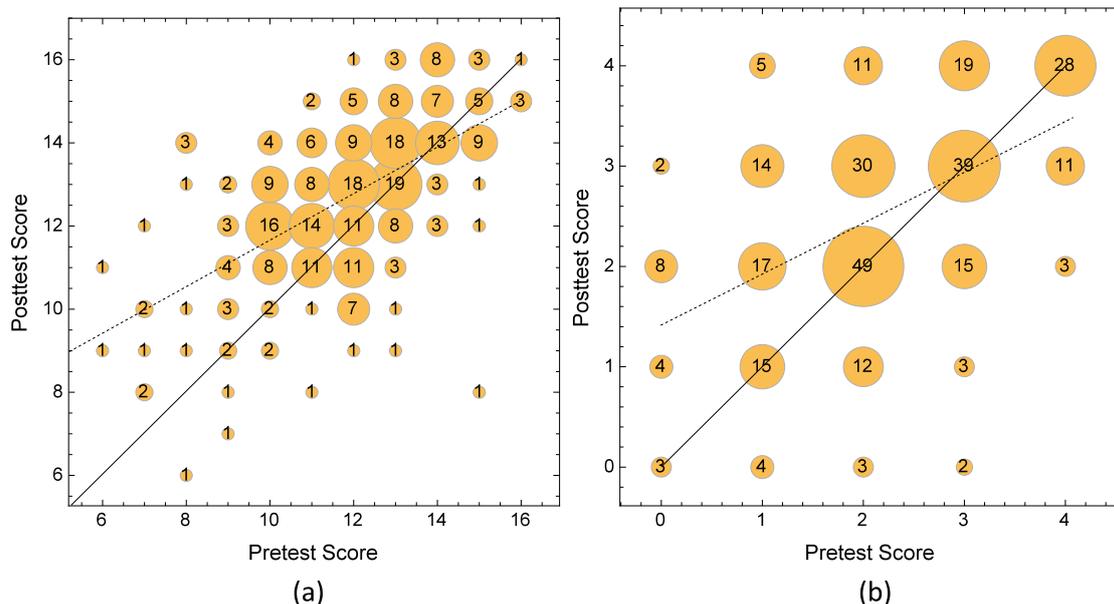(a)   (b)

Figure 2. Bubble charts[2] for posttest score versus pretest score for (a) Passage 1 with 16 gaps indicated, and (b) Passage 2 with 4 missing articles but no gaps indicated, presented to EAL students ($n = 297$) in a lecture room. The solid diagonal line represents "no change from pre- to posttest", so bubbles above this line represent an improvement while bubbles below the line represent a reduction in performance. The dotted lines are the linear regression lines through the data,

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[2] A bubble chart is a scatterplot with the number of points sitting on top of each other indicated by the area of the "point" (i.e. bubble). Thus, for example, the largest bubble in chart (b) indicates that 49 participants had a pretest score of 2 and a posttest score of 2, while the bubble above it indicates that 30 participants had a pretest score of 2 and an improved posttest score of 3.

and these suggest that initially weaker students may have had larger gains than initially stronger students. [3]

The indefinite article proved more problematic than the definite article (see Table 3), with average pretest correctness of 62.48% and posttest correctness of 67.68%, compared to pretest correctness of 74.04% and posttest correctness of 82.42% for the definite article. The correctness of null article use decreased from 74.24% in the pretest to 71.55% in the posttest, but the general overall correctness of the null article was greater than that of the indefinite article.

Table 3. Pre- and posttest uses of articles in two passages presented to EAL students ($n = 297$) in a lecture room. Passage 1 (items 1-16) had gaps indicated; passage 2 (items 17-20) had no gaps indicated. Greyed items had the biggest net improvements. Other items are possibly largely random fluctuations.

Answers	Pretest (% correct)	Posttest (% correct)	Percentage of answers changed from incorrect to correct	Percentage of answers changed from correct to incorrect
1 a	35.69	51.85	21.89	5.72
2 a	93.27	92.26	5.39	6.40
3 the	71.72	84.18	16.50	4.04
4 null	91.58	88.89	3.70	6.40
5 the	68.01	93.94	26.94	1.35
6 the	89.23	95.62	9.09	2.69
7 unnecessary before 'another'	85.52	83.84	5.39	7.07
8 the	82.49	89.23	10.44	4.04
9 null	56.90	54.21	13.47	10.77
10 the	81.14	82.93	7.41	5.72
11 a	56.57	63.97	14.81	7.74
12 a	76.77	84.85	12.12	4.04
13 the	93.27	94.95	4.38	2.69

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[3] Note however, that the last two columns in Table 3 suggest that a certain amount of answer changes from prettest to posttest may be just "random fluctuations" (i.e. to some extent random factors may influence how a student will respond to a stimulus). In such situations, "regression to the mean effects" can cause a pretest-posttest regression line to artificially flatten (Hill, Griffiths, & Judge, 2001, pp. 288-291). Thus it may be that at least some of the apparent higher learning gains by weaker students are due to this effect rather than representing a real learning gain. Further research into the test-retest reliability of the assessment item used is needed to determine the possible impact of this effect on the results. Note that the mean difference score is not biased by regression to the mean effects.

Table 3 continued.

Answers	Pretest (% correct)	Posttest (% correct)	Percentage of answers changed from incorrect to correct	Percentage of answers changed from correct to in-correct
14 an	79.46	73.74	8.08	13.80
15 the	95.62	95.96	2.02	1.68
16 a	29.97	40.07	17.51	7.74
17 the	56.90	67.00	17.17	6.06
18 the	46.46	56.23	19.19	9.43
19 the	55.56	64.31	18.18	9.43
20 an	65.66	67.00	10.77	9.43

Some article uses evidenced little change. Three levels of correctness increased only slightly, between 1% and 3%: gap 10 (*the* other); gap 13 (*the* team); and gap 20 (*an* easy system). One correctness level remained stable: gap 15 (*the* results). There were four minor decreases in correctness (between 1% and 3%): gap 2 (*a* new dictionary); gap 4 (___ English); gap 7 (___ Another); and gap 9 (___ American English). Gap 14 (such *an* excellent book) had a 5% decrease.

Other article uses showed a greater change, with eleven increases in correctness of between 7% and 26%: gap 1 (*a* more exciting time); gap 3 (*the* needs); gap 5 (*the* 1980s); gap 6 (*the* first large corpora); gap 8 (*the* same database); gap 11 (*a* privilege); gap 12 (such *a* talented and creative team); gap 16 (*a* pleasure); gap 17 (*the* end of); gap 18 (*the* date); and gap 19 (*the* page). There were no large decreases in correctness.

From the overall correctness scores, students had the most difficulty with inserting *a* in "I hope you . . . find the dictionary (16) ___ pleasure to use", tending to omit the article altogether. Only 40.07% gave a correct answer here in the posttest. This may be because they were not aware that *pleasure* could be a countable noun. They also had difficulty with *a* in "There has never been (1) ___ more exciting time", although the posttest results here were more encouraging (51.85% correctness). Again, they may have been thinking of *time* as an uncountable noun. Item 18 also remained problematic, with almost half the participants failing to insert the definite article in "*the* date that the work you are referring to was published".

The greatest improvement was with gap 5 (*the* 1980s), from 68.01% to 93.94% correctness.

In addition to these overall increases and decreases, there were individual changes from incorrect to correct and from correct to incorrect answers (see Table 3). Of particular interest here are the instances where participants changed from a correct to an incorrect response. This could mean that they guessed the answers in some cases, and ended up with a right or wrong answer by chance. At other times they may have overcorrected based on information heard in the lecture but wrongly applied. Gaps 9 (10.77%) and 14 (13.80%) showed the greatest changes from correct to incorrect and will be discussed below.

5. Discussion

When piloting the text on L1 speakers of English, the greatest consensus was reached in the cases of first mention indefinite articles and what Hawkins (1978, pp. 130-138) refers to as "unfamiliarity examples" (his type 7), including relative clauses, "associative clauses" (*the x of*) and noun phrase complements. The participants in the study, however, had greater difficulty with their use of the indefinite article (average 67.68% posttest correctness across all indefinite articles in the passages) than their use of the definite article in unfamiliarity examples (average posttest correctness of 73.60%). This was true even though three of the five unfamiliarity examples included unmarked gaps, which made the items harder to answer. Null articles showed a slight decrease in correctness, with an average posttest correctness of 71.55%. Each article is discussed in more detail below.

5.1. Zero/Null article

The passages in the pre- and posttests contained two null articles and a gap where the word 'another' was used before the noun, meaning that no article needed to be added. In each case there was a 2-3% decrease in correct usage, with insertion of a definite or indefinite article in the posttest where none was necessary. For gap 4 (___ English), the definite article was mainly inserted; for gaps 7 (___ Another) and 9 (___ American English), both definite and indefinite articles were inserted. In fact, gap 9 decreased in correctness, with 3.37% of participants who had previously had a correct answer changing their answer to *an* and a further 7.41% adding *the*.

Three participants also deleted an article in gap 13 (*the* team) in the posttest and four deleted an article in gap 15 (*the* results of our hard work). There were no other increases in zero or null article use. There were, however, three items for which participants greatly overused the zero or null article in place of the indefinite article, even in the posttest: gap 1 (*0* article 43.43%); gap 11 (*0* article 24.92%); and gap 16 (*0* article 54.54%). There was also a large (33.00%) substitution of *0* for *the* in gap 17. These findings are in line with those of Master (1995) and Yamada and Matsuura (1982). García Mayo (2008, p. 569) suggests, in addition, that learners may tend to omit an article before a capital letter, feeling that another word is unnecessary because capital letters are usually found at the start of a sentence. In the present study, learners actually inserted unnecessary articles before three words beginning with capital letters. This is an area for further research.

5.2. The indefinite article

Although Pica (1985) suggests that instruction does not help in the acquisition of the indefinite article, short-term improvement was evidenced by Shintani and Ellis's (2013) students. In the current study, the use of the indefinite article improved in five cases (between 3% and 16%) and decreased slightly in two cases (between 3% and 5%). Improvement was evident even when the noun had an uncountable alternative:

- gap 1: *a* more exciting time (*time* can be countable or uncountable); and
- gap 16: *a* pleasure to use (*pleasure* can be countable or uncountable).

Although the study did not seek to discover how students understood the context of the nouns in these examples, Master (1997, p. 218) suggests that correct use of the indefinite article requires students to understand how countability works. The application of countability in determining article choice was in fact a key feature of the teaching in this session and appears to have had some success. Nevertheless, the indefinite article had the lowest overall correctness rate in the study, echoing Yamada and Matsuura's (1982) findings that the indefinite article was the hardest for advanced EAL learners in their study to acquire.

Anecdotally, some students exposed to the teaching materials during the video filming told the researcher that they had previously not fully understood the use of *a* rather than *an*, even though they had been learning English for many years and were about to enter university in Australia. In

the teaching materials, it was explained that *a* is used before a consonant sound and *an* is used before a vowel sound. An analysis of the posttest results revealed that while use of *an* in place of *a* was rare, 20% of students used *a* instead of *an* for gaps 14 and 20. In each case, the article preceded an adjective rather than a noun:

- gap 14: such *an* excellent book; and

- gap 20: *an* easy system.

It is not known whether the students who chose *a* did so because they disregarded the adjective and thought only of the noun, which started with a consonant. In the case of gap 14, the students who chose *a* could have internalised the pattern 'such a', which was highlighted in the teaching, and either failed to change *a* to *an* when inserting an article or, in the case of the 9.76% who changed *an* to *a* in their posttest, had the pattern *such a* so strongly in their minds that they failed to see the following vowel. The number of correct answers to gap 12, which also contains the 'such a' pattern, supports this possibility. For gap 12, 12.12% of participants changed their answers from incorrect to correct and only 4.04% went from correct to incorrect, with only one person changing *a* to *an*. These speculations indicate how, as discussed in footnote 3, "random factors" can trigger what sort of response a student will make in at least some instances.

Whatever the explanation, learners' reasons for choosing between *a* and *an* would make a useful future study.

5.3. The definite article

Ten of the articles omitted in the test passages were definite articles, five of them corresponding to Hawkins' type 7, or "unfamiliarity" use:

- gap 3: *the* needs and goals of those learning and teaching English;

- gap 15: *the* results of our hard work;

- gap 17: *the* end of your assignment;

- gap 18: *the* date that the work you are referring to was published; and

- gap 19: *the* page where the quotation was found.

These five also represent cataphoric use, which Yoo (2009, p. 273) says accounts for 40% of definite article use in academic texts, hence identifying its importance for teaching purposes. The participants in this study showed an improvement of between 8% and 12% in such use in four of the five instances (gaps 3, 17, 18 and 19), and stability in the fifth (gap 15), suggesting that this may be one of the easiest types of article use to learn and to teach, especially when the word *of* is present.

Overuse of the definite article was exhibited by some students in other cases, as in studies by Yamada and Matsuura (1982) and Díez-Bedmar and Pérez-Paredes (2012), but in contrast to students in Leńko-Szymańska's study (2012). This was particularly apparent in the places where no articles were required: gaps 4 (___ English), 7 (___ Another) and 9 (___ American English). The definite article was also used instead of the indefinite article by roughly 5% of the participants. It was not, however, used ungrammatically, in places where no article was required. Neither was there a particular item which attracted large amounts of incorrect definite instead of indefinite article use. These findings contrast with Ko, Ionin and Wexler's (2010) study, but match those of Liu and Gleason (2002)'s more in-depth study of the definite article. The findings also confirm Master (1997)'s suggestion that definiteness is a major problem for EAL learners.

6. Limitations

The results should be interpreted with caution because this was a single teaching session and, although the students came from a range of countries and language groups, the majority were

from China. The pre- and posttests were identical, which could also have caused participants to remember incorrect answers and repeat them in the posttest. In addition, because of the difficulty of finding consensus among native speakers on the use of many articles in the passages, only 20 gaps were finally included. A longer text with many more articles omitted, addressing all the types highlighted by Hawkins and Master, would provide more thorough results. Such a text might be hard to develop, however, given the role that context and interpretation play in article usage. In the pilot test, for example, many native speakers omitted the definite article where it had been included by the original author: "Everything is changing and expanding: *the* English language itself" (Rundell, 2002, p. x).

7. Conclusion

The first research question asked whether the resources in this study helped students to improve their article use from the pre- to the posttest. The answer is that there was an improvement overall, although some individual items showed a small decrease in correctness. Although Master (1997, p. 228) cautions that articles "cannot possibly be taught in a single lesson", this study, while not aiming to teach absolute beginners, showed that some improvement was nevertheless possible in a single session for students of high intermediate ability and above. Because it was a single session, however, there was no time for students to commit the large amount of detail to memory. Moreover, the study could not predict whether there would be a long-term improvement. A longitudinal study might find different results, but it would be hard to control for any external influences involved, such as general exposure to English in a classroom or other setting. It may be, however, that regularly prompting students consciously to notice (Schmidt, 1990) the uses of different articles would have an effect on their overall accuracy.

The second research question asked which article uses were easiest or hardest for students in the posttest. The findings indicate that the EAL learners in this study made greatest correct use of the definite article, followed by the zero/null article and finally the indefinite article. Distinguishing between *a* and *an* remained problematic at times. In terms of improvement, the study revealed that first mention indefinite articles and definite articles followed by 'of' or a relative clause showed the greatest increase in correctness. A wider variety of article uses would have been useful in the exercises in order to determine a greater variety of use or misuse. However, native speakers differed so much in their addition of missing articles that it was hard to find a long enough authentic passage to demonstrate more uses. The native speaker dissension is itself indicative of the different ways in which readers may add context to a passage.

Several implications for ALL practitioners arise from this study. First, it is recommended that when giving EAL students advice on the article system the focus should be on those items for which native speakers of English show most consistency of use: the indefinite article used in situations of unfamiliarity, and the definite article used with 'of' or a relative clause (Hawkins' type 7, which Yoo (2009, p. 273) says is particularly important for academic writing). Secondly, students should be cautioned against the overuse of the definite article. Thirdly, details need to be given of when an article is not required, as in zero or null article use. Fourthly, the seemingly simple difference between *a* and *an* should be highlighted, especially when an adjective appears before the noun. Fifthly, the notion of countability should be explained. Sixthly, the article decision-making chart can be used to direct students to the use of the correct article.

Finally, although the study focused on article use, it has implications for those who wish to investigate methods of teaching other areas of English grammar, such as prepositions or the passive voice, and encourages advisors to research the aspects of those areas which cause their students most difficulty. Although it takes time to master the finer points of English grammar, advisors can give their students a head start if they themselves understand the particular problems students typically face.

Acknowledgements

Appendix A. Teaching text containing all the uses of articles in English, with reasons for the use of each one

Ms Parrot, (1) **the** most famous lady detective of (2) **the** twenty-first century, was born in (3) **the** United Kingdom in (4) **the** 1960s. Since then, she has been to many countries, including (5) Portugal, Singapore and Australia, and has lived in (6) **the** northern hemisphere and (7) **the** southern hemisphere, as well as on (8) **the** equator. She has never been to (9) **the** Philippines or **the** United States, but she speaks (10) English, French and Portuguese. Like Sherlock Holmes, (11) *the* Sherlock Holmes, (12) **the** famous detective, she plays (13) **the** violin, and sometimes practises up to five times (14) **a** day. She is also (15) **the** only person in (16) **the** world to have performed Tchaikovsky's 1812 (17) overture in one (18) breath on (19) **the** recorder. She has been (20) **a** detective for (21) thirty years and claims that although (22) many people think that being (23) **a** detective is (24) **a** piece of cake, (25) detectives generally work very hard and it's not all (26) fun and (27) games. (28) **A** detective is someone who solves (29) mysteries, and (30) **the** people who contact Ms Parrot have some very unusual (31) problems. (32) Little information is available about some of (33) **the** cases she has solved, but (34) **a** few of (35) her most famous cases have attracted worldwide (36) attention and she has been offered up to (37) **a** thousand dollars (38) **an** hour to help solve (39) mysteries such as (40) **the** case of (41) **an** Australian owl in (42) **a** uniform. (43) **The** bird laid (44) **an** egg in (45) **a** European nest in less than (46) **an** hour after (47) its arrival. What (48) **a** strange problem! With great (49) modesty, she has either declined such (50) **a** fee or donated (51) **the** money to (52) **the** poor, or to (53) **the** Grammar Survival Fund, believing that (54) **the** detective should use (55) their skills for (56) **the** common good.

Reasons for choice of article:

1   *the most famous lady detective* – superlative

2   *the twenty-first century* – ordinal

3   *the United Kingdom* – a country with 'United' in the name

4   *the 1960s* – a decade

5   *Portugal, Singapore, Australia* – country names don't usually take an article, unless they are plural or have 'United' in the name

6   *the northern hemisphere* – a unique place – there is only one northern hemisphere

7   *the southern hemisphere* – a unique place – there is only one southern hemisphere

8   *the equator* – a unique place – there is only one equator

9   *the Philippines, the United States* – countries with plural names (other examples are the Netherlands, the Maldives and the Seychelles)

10   *English, French, Portuguese* – the names of languages do not take articles

11   *the Sherlock Holmes* – the name is stressed by 'the' to show that this is a well known person, not someone else with the same name

12   *the famous detective* – everyone knows about this detective, so he is not just 'a famous detective' (one of many) but 'the famous detective' whose name everyone knows

13   *plays the violin* – playing an instrument

14   *five times a day* – a rate

15   *the only* – a unique adjective

16   *the world* – a unique place

17   *Tchaikovsky's 1812 overture* – the noun 'overture' is preceded by a possessive (Tchaikovksky's). This piece of music is sometimes called *the 1812 overture*, because there is only one famous piece of music with that name.

18   *one breath* – the word 'one' replaces the indefinite article here

19   *the recorder* – this is similar to 'she plays the recorder'. It refers to a kind of instrument, not a particular example of that instrument.

20   *a detective* – someone's job

21   *thirty years* – no article is needed because there is a number

22   *many people* – no article is needed after *many*

23   *a detective* – someone's job

24   *a piece of cake* – a single part of a whole. (*A piece of cake* is also an idiom meaning 'very simple'.)

25   *detectives generally* – plural and not specific

26   *fun* – uncountable noun and not specific

27   *games* – plural noun and not specific. (*Fun and games* is an idiom referring to something enjoyable.)

28   *a detective* – definition. Definitions can take 'a' or 'the'. In this case, it means that any detective is a person who solves mysteries.

29   *mysteries* – plural noun used generally

30   *the people who contact Ms Parrot* – noun followed by a relative clause ('who contact Ms Parrot')

31   *some very unusual problems* – no article is needed after *some*

32   *little information* – negative – not very much

33   *the cases she has solved* – noun followed by a relative clause (abbreviated from *which she has solved*)

34   *a few* – positive, meaning 'some'

35   *her most famous cases* – possessive *her*, so no need for an article

36   *attention* – uncountable noun used generally

37   *a thousand dollars* – *a* is used instead of *one*

38   *an hour* – a rate, and *hour* starts with a vowel sound so it takes *an*

39   *mysteries* – not specific

40   *the case of* – specific and followed by *of*

41   *an Australian owl* – first mention of a singular countable noun; *Australian* starts with a vowel sound, so it takes *an*. In many detective novels, you will see titles such as *The case of the city clerk* (by Agatha Christie). This is a convention in detective novel titles, and draws the reader into the plot, as though they are already familiar with the case.

42   *a uniform* – first mention of a singular, countable noun

43   *the bird* – we know which bird – the owl that was mentioned previously

44   *an egg* – first mention of a singular, countable noun starting with a vowel sound

45   *a European nest* – first mention of a singular, countable noun preceded by an adjective starting with a consonant sound

46   *an hour* – first mention of a singular, countable noun starting with a vowel sound

47   *its arrival* – no need for an article because of the possessive *its*

48   *what a strange problem* – first mention of a singular, countable noun. This is also an exclamation, and exclamations often take *a*

49   *modesty* – uncountable noun

50   *such a fee* – expression *such a* takes *a*

51   *the money – money* is associated with *fee*, so we know which money and it becomes definite

52   *the poor* – an adjective used as a noun

53   *the Grammar Survival Fund* – names of organisations usually take *the*

54   *the detective* – a representative of a class

55   *their skills* – no need for an article because of the possessive *their*

56   *the common good* – an adjective used as a noun

Appendix B. Text for pre- and posttests and answers with explanations for students

Passage 1

There has never been (1) <u>a</u> more exciting time to produce (2) <u>a</u> new dictionary. Everything is changing and expanding: the English language itself, the technology that helps us to describe it, and (3) <u>the</u> needs and goals of those learning and teaching (4) <u>0</u> English. (5) <u>The</u> 1980s saw the development of (6) <u>the</u> first large corpora (special collections) of English text.

(7) <u>0</u> Another of the *Macmillan English Dictionary's* innovations is that two similar but separate editions have been created from (8) <u>the</u> same database: one for learners whose main target variety is (9) <u>0</u> American English, (10) <u>the</u> other for learners of British English. The differences are small but significant.

The *Macmillan English Dictionary* is the product of good linguistic data and high-quality people. It has been (11) <u>a</u> unique privilege to work with such (12) <u>a</u> talented and creative team, and I would like to thank (13) <u>the</u> team for producing such (14) <u>an</u> excellent book. I hope you enjoy (15) <u>the</u> results of our hard work and find the dictionary (16) <u>a</u> pleasure to use.

(Adapted from Rundell, 2002, p. x)

(1)   **a**   Singular, countable noun; first mention; not specific.

(2)   **a**   Singular, countable noun; first mention; not specific

(3)   **the**   Plural, countable noun; followed by *of* and therefore specific, as we know whose goals the writer is referring to.

(4)   **0**   Uncountable noun used generally, so no article.

(5) **the** Decade

(6) **the** Superlative

(7) **0** No need for an article, as you already have *another.*

(8) **the** Unique adjective *same.*

(9) **0** Uncountable noun used generally, so no article.

(10) **the** We know this is the second of two databases, so it is specific – *the other*.

(11) **a** Singular, countable noun; first mention; not specific; starts with a consonant sound.

(12) **a** Singular, countable noun; first mention; word pattern *such a.*

(13) **the** Singular, countable noun; specific, as we know which team (it has just been mentioned).

(14) **an** Singular, countable noun; first mention; word pattern *such a* followed by a vowel sound.

(15) **the** Plural, countable noun; specific, as we know which results: *the results of our hard work.*

(16) **a** Singular, countable noun; first mention.

Passage 2

The Harvard referencing system has two essential components: brief in-text references throughout your assignment and a comprehensive list of references at (1) the end of your assignment. The in-text reference should give (2) the date that the work you are referring to was published, the family name of the author and, in the case of quotations, (3) the page where the quotation was found. It is (4) an easy system, once you understand it.

(Adapted from Hay, Bochner, & Dungey, 1997, p. 155)

(17) **the** Singular, countable noun; followed by *of* and therefore specific, as we know what the writer is referring to.

(18) **the** Singular, countable noun; specific, as there is only one publication date.

(19) **the** Singular, countable noun; specific, as it refers to a particular page: *the page where the information can be found.*

(20) **an** Singular, countable noun; first mention; one of many systems, so not specific; begins with a vowel sound.

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