

Incorporating Research-based Teaching Techniques in E-learning to Teach English Articles

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ABSTRACT

This article presents evidence about research-based teaching techniques that aided making the e-learning tool designed for this research more effective than traditional teaching methods when teaching English articles (e.g. ‘a’, ‘an’, and ‘the’). The techniques employed were: Master’s binary schema, explicit instruction, chunking, and direct feedback. Master’s binary schema (Master 1988, 2003) is an easy-to-grasp and detailed method of teaching English articles. Explicit instruction is the provision of clear and simple instruction of specific target structures (Troia & Graham 2002); in this study, the focus is on English articles. Chunking is the splitting of longer instructions into smaller segments for easier processing (Coulfal 2002). Direct feedback for written texts is when responses are placed above, below, or near the inappropriate target structure to guide students towards appropriate use of structures (Bitchener & Knoch 2010). The main study results strongly indicated that the e-learning tool was more effective than the traditional teaching techniques employed in this study. For the overall results by stage and group, the e-learning group achieved significantly better results than the control group. The main study results provide valuable quantitative evidence about the research based teaching techniques incorporated into the e-learning tool for English article usage teaching and for the effectiveness of e-learning in the English grammatical structure teaching.

Keywords: English articles; e-learning; CALL; language pedagogy; English language; Game-Based Learning

INTRODUCTION

Research done on learners from different language backgrounds suggests that English articles are among the most complex grammatical structures that ESL learners need to acquire (Arabski 1979, Huong 2005, Master 1996, 2003, Zabor 2011). These structures need to be taught to ESL learners, as their inappropriate usage can influence the perception of the quality of written English. With English employed as a lingua franca in academic and business fields, an ESL writer may want to learn about appropriate use of English articles in order to write higher quality texts in English (Huong 2005). This paper reports the use of an innovative e-learning tool (Gillian 2017) in order to teach more effectively the varied uses of English articles.

LITERATURE BACKGROUND

THE COMPLEXITY OF ENGLISH ARTICLES

Zabor states that English articles contain “complex semantic notions as existence, reference, and attribution; discourse notions of context and anaphora and syntactic notions of number and countability” (Zabor 2011, p. 64). The notions that Zabor describes are often context-dependent e.g. nouns in English can be countable and uncountable: “I have one hair in my soup” (the noun hair is countable) or “I have black hair” (the noun hair is uncountable). As a result, Zabor contends that “articles are one of the most difficult structural elements for

second language (L2) learners” (Zabor 2011, p. 64). Master (2002) argues that ESL learners, who want certainty and one rule for each article usage context, often have severe difficulties learning English article usage patterns. They have these problems as the complex notions associated with articles and the context-dependency for article choice lead to learners often feeling unsure about appropriate article use in texts.

Research in the field of written English supports these assertions. Arabski (1979) conducted a seminal and detailed study into Polish ESL learners’ use of articles in written texts which found that Polish ESL learners have considerable difficulties with appropriate usage of articles. His study examined a large sample of English department essays written by University of Silesia students and found that between 21% and 43% of all the grammatical errors observed were errors with articles. Huong (2005) found in a sample of 14 essays written by Vietnamese ESL learners that formed part of their PhD research in 2005 that “with 35.7%, the NP errors accounted for the highest percentage of errors. Within this category, the most frequent error concerned English articles (88.2%).” (Huong, 2005, p. 10).

Therefore, teaching of the appropriate use of ‘a’, ‘an’, and ‘the’ is an area of high need in ESL learning as there are many languages such as Polish, Russian, or Chinese that do not have articles.

The next sections present the teaching techniques incorporated into the e-learning tool and the research that supports their usage in effective teaching of ESL students.

MASTER’S BINARY SCHEMA

In his numerous publications (Master, 1988, 1990, 1996, 2002, 2003), Master proposed a teaching model that is easy to understand and detailed in its explanation of different article usage patterns. The model frames the article usage patterns in a simple two-stage schema. The first stage is *classification* where the article usage choices are *a*, *an*, or *no article*. The following are some of the major contexts for usage choice in the classification stage:

1. the speaker/writer assumes the hearer/reader is not familiar with the topic;
2. the speaker/writer introduces a topic for the first time;
3. the speaker/writer does not give the hearer/reader enough information to identify the topic.

Context 1 is illustrated by the following example:

- (1) Janusz: There is a series about Australian mega-fauna that you would really like.
Ada: Yes, I read about it.

In example (1), Janusz is not sure if Ada is familiar with the TV series and so uses the indefinite article *a*. Ada’s answer shows her understanding of Janusz’s communicative intention.

Context 2 is shown in the subsequent example:

- (2) Anna: What did you do today?
Ada: I bought silver and gold shoes.

Example (2) shows Ada introducing the topic of *shoes* for the first time in her answer. Therefore, she uses *no article* with the plural countable noun to tell Anna that she is talking about a new topic.

Context 3 is exemplified by the following example:

- (3) [Kamila is building a table with her friend Freda. There is a group of nails of varying sizes (four long nails and three short nails) next to Freda]
Kamila: Give me a nail.
Freda: Which one?
Kamila: A long one.

In example (3), Kamila does not give Freda enough information to identify which nail Kamila wants. Kamila employs the indefinite article *a* as a synonym of the number *one*, making the object desired by Kamila definite. However, Freda asks a question to clarify which nail Kamila wants as the information Kamila gave was not enough for Freda. Kamila then gives more information with the adjective *long*. She uses the indefinite article *a* as there are four long nails and Kamila does not care which long nail Freda gives to her.

The second stage of the schema is *identification* where article usage choice is *the*. The following are two major contexts for usage choice in the identification stage:

4. the speaker/writer assumes the hearer/reader is familiar with the topic
5. the speaker/writer introduces a topic for the second time,

Context 4 is shown in the subsequent example:

- (4) Ada: "I was at the shop today, but I couldn't get the milk"
Marcin: (surprised) "What milk?"
Ada: "Oh, the lactose-free milk!"

Ada uses the definite article *the* with the noun *milk* as she thought Marcin was familiar with the topic. However, Marcin asks the question in example (4), because he is not familiar with what Ada is talking about. Ada gives more information about the milk using the definite article *the*, as again she assumes Marcin is familiar with the topic.

Context 5 is illustrated by the following example:

- (5) Ada: "I saw an egg"
Marcin: "Where?"
Ada: "The egg was under our couch."

In example (5), Ada initially uses the indefinite article *an* to tell Marcin that she is introducing the specific noun *egg* to the conversation. In her second response, Ada uses the article *the* to signal that she is continuing to talk about the specific noun already introduced into the conversation.

APPLYING THE SCHEMA TO DIFFERENT CONTEXTS

The schema can be applied to different contexts to explain how English articles are used with nouns. The classification stage of the schema also explains the different types of nouns in English and how these different noun types affect article choice.

COUNTABILITY

The idea of countability is a major feature differentiating noun types in English. English nouns can be labelled as either *countable/count* or *uncountable/noncount*. *Countable nouns* can be singular (e.g. *one computer*) or plural (e.g. *ten computers*). *Countable singular nouns* can be used with the indefinite articles *a* or *an* or the definite article *the*. On the other hand, *uncountable nouns* (such as *sadness* or *spaghetti*) have no singular-plural opposition (Huong

2005, Król-Markefka 2010, Master 1996, Quirk et al. 1985). *Countable plural nouns* and *uncountable nouns* can be used with *no article* or the definite article *the*. L2 learners need to learn this feature of English nouns as it is a crucial factor in choosing the appropriate article (Huong 2005, Król-Markefka 2010, Master 1996, Miller 2005). L2 learners also need to know about two-way nouns in English. These nouns can be either *countable* or *uncountable*, depending on the sense and context. For example, *light* is uncountable when referred to in a general sense (e.g. *Light makes grass grow*). However, *light* is countable when it refers to a specific object which produces light (e.g. *The light makes grass grow*). In the first example, no article helps the hearer/reader understand that *light* is uncountable. In the second example, the article *the* aids the hearer/reader to understand that *light* is countable as it refers to an object in a specific sense.

FIRST-TIME-MENTION-NOUNS

The first major context that the schema must teach L2 learners is the use of articles with *first-time-mention-nouns*. As stated before, these nouns fit in the classification stage of the schema. *First-time-mention-nouns* are nouns where the speaker/writer has introduced them in a conversation or discourse for the first time. The article choice for these types of nouns depends on the type of noun that they are (see Countability section for more details). If the first-time mention noun is *singular countable*, then the indefinite article *an* is used if the word starts with a vowel sound (e.g. *an apple*). If the *singular countable* word starts with a consonant sound, then the indefinite article *a* is used (e.g. *a house*). If the noun is *plural countable* (e.g. *apples*) or *uncountable* (e.g. *education*), *no article* is used.

SECOND-TIME-MENTION-NOUNS

The second major context that the schema must teach L2 learners is the use of articles with *second-time-mention-nouns*. As stated before, these nouns fit in the identification stage of the schema. *Second-time-mention-nouns* are nouns where the speaker/writer has talked about or written about them in a conversation or discourse after the first time. This can include any subsequent mention of these nouns in the discourse. The article choice for these types of nouns is simpler than *first-time-mention-nouns* in that the definite article *the* is used regardless of the type of noun.

SECOND-MENTION-WITHOUT-FIRST-MENTION NOUNS

There is a major context of article usage with nouns that is not often covered in the teaching of articles in English (Huong 2005, Król-Markefka 2010, Master 1988, 1996, 2003). These are *second-mention-without-first-mention-nouns* and these nouns refer to nouns that are used with the definite article *the* for the first time in a discourse. These nouns can be placed in the identification stage of the schema as the speaker/writer assumes that the hearer/reader is familiar with them. The following example demonstrates this context:

(6) *I was driving home yesterday when the radiator burst.* (Master 1988, p. 211)

In example (6), the definite article *the* is used with the noun *radiator*, even though this noun is said for the first time. The speaker assumes the hearer knows that radiators are a part of a car, whose involvement was in turn implied through the use of the verb *driving*.

This type of noun is dependent on shared knowledge which is one of the most difficult concepts to learn as it shifts from context to context (Master 1996). Shared

knowledge is where the speaker assumes the hearer knows the noun being talked about; and as a result, the noun is identifiable (e.g. specific and definite). Shared knowledge comes in three types: universal, regional/local, and immediate (Master 1996). Universal shared knowledge is where the noun is a thing everybody knows such as *the sun* and *the moon*. Regional/local shared knowledge is where the noun is a thing everybody in the area knows about such as *the local park*. Immediate shared knowledge is where the noun talks about something the speaker and hearer can both see, such as *the chair in the corner*. In these contexts of shared knowledge, the speaker can use the definite article *the* with the noun, even when the noun has been mentioned for the first time.

POLITICAL, GEOGRAPHICAL, AND CULTURAL NOUNS

The e-learning tool specifically designed for this research includes three groups of nouns also often not included in the teaching of English articles due to their complexity (Huong 2005, Król-Markefka 2010, Master 1988, 1996, 2003). These are political nouns, geographical nouns, and cultural nouns. Political nouns refer to nouns associated with politics including continents, countries, states, cities, and government departments (Master 1996, p. 226). According to Master, political nouns can be further separated into those that require no article such as single countries e.g. *Poland* and those that require the definite article *the* e.g. *the continent of Africa*. Master defines this separation as the distinction between *names* and *titles* when referring to *proper names* (Master 1996). In terms of the use of articles, *titles* are a pattern marked in a regular manner by the definite article *the* and the preposition *of* for political nouns (Master 1996, p. 226).

Geographical nouns are nouns connected with geography including rivers, lakes, seas, oceans, islands, mountains, deserts, and canals (Master 1996, p. 226). In Master's schema, geographical nouns can be further organised in terms of those that have a singular/plural distinction such as islands, mountains, and lakes and those that require the article *the* with the singular form including oceans, seas, rivers, canals, and deserts (Master 1996, p. 226).

Cultural nouns are nouns associated with culture including holidays, street names, university departments, groups of peoples such as *the Poles*, and languages (Master 1996, p. 226). Like political nouns, cultural nouns can be grouped in terms of those that require no article such as holidays e.g. *Christmas* and those that require the definite article *the* e.g. *the fourth of July*. Like political nouns, Master (1996) defines this distinction between different types of cultural nouns as a distinction between *names* and *titles* when referring to *proper names*. As with political nouns, cultural nouns are marked in a regular pattern by the definite article *the* and the preposition *of* (Master 1996, p. 226).

PROPER NAMES

The e-learning tool (Gillian 2017) also employs Master's schema in teaching proper names. Proper names can be defined as the names of people, animals, objects, and company names (Master 1990, p. 473). In Master's schema, these nouns are most often marked with no article in discourse and texts (Master 1990, p. 473). The e-learning tool explicitly teaches the use of company names as a type of proper name as this context is not often taught to students.

The e-learning tool (Gillian 2017) adapts Master's binary schema to present the *classification* and *identification* concepts in individual sub-modules. Table 1 presents the *classification* concepts and Table 2 presents the *identification* concepts in the e-learning tool.

TABLE 1. Classification concepts in the e-learning tool

Individual Sub-module	Concepts Covered
countable/uncountable nouns	the difference between nouns that can be single or plural and those that cannot such as abstract nouns (e.g. <i>information</i>) and mass nouns (e.g. <i>macaroni</i>)
two-way nouns	nouns such as <i>hair</i> that can be countable (e.g. <i>There are 2 hairs in my soup</i>) or uncountable (e.g. <i>She has blond hair</i>) depending on the context
<i>a</i> or <i>an</i> with nouns	the use of <i>a</i> or <i>an</i> with single, countable nouns depending on whether the nouns start with a consonant sound or vowel sound
first-time-mention nouns	nouns said or written for the first time in discourse and/or a text
<i>have</i> and <i>be</i> with nouns	the use of the verb <i>have</i> to associate characteristics with nouns and the use of the verb <i>be</i> to define nouns
sports nouns	the use of names of sports such as <i>football</i> or <i>archery</i>

TABLE 2. Identification concepts in the e-learning tool

Individual Sub-module	Concepts Covered
definite article with nouns	the use of <i>the</i> with nouns regardless of whether they are single, countable; plural, countable; two-way; or uncountable
second-time-mention nouns	nouns said or written after the first time in discourse and/or a text
<i>do</i> with nouns	the use the verb <i>do</i> with: singular and plural countable nouns, uncountable nouns, and verbs of action
<i>play</i> with nouns	the use of the verb <i>play</i> with musical instruments and sports
describing words before nouns	simple adjectives preceding the noun that can either classify or identify the noun
describing words after nouns	complex adjectival phrases following the noun that can either classify or identify the noun
special second-time-mention nouns 1	superlative adjectives, sequence adjectives, and unique adjectives
special second-time-mention nouns 2	shared knowledge – universal, regional/local, immediate
political nouns	nouns related to politics including continents, countries, states, cities, and government departments
geographical nouns	nouns related to geography including rivers, lakes, seas, oceans, islands, mountains, deserts, and canals
cultural nouns	nouns related to culture including holidays, streets names, university departments, groups of peoples such as <i>the Poles</i> , and languages
proper names	names of people and companies

EXPLICIT INSTRUCTION

Explicit instruction can be defined as direct and clear instruction of specific target structures where information given is clear and simple with a minimum of meta-linguistic detail (Troia & Graham 2002). Explicit instruction can be seen as positive evidence in teaching situations as it gives appropriate target structures in authentic language contexts for students (Gregg 2001, Pawlak 2006). Students are presented with the target structures together with rules or patterns to explain the usage of the target structures in context (Pawlak 2006).

RESEARCH EVIDENCE FOR EXPLICIT INSTRUCTION

Explicit teaching of written language concepts has been noted to aid computer-assisted language learning. The author carried out research employing writing prompt software that demonstrated that explicit teaching of the target forms (sentence construction and punctuation) was one of the factors that aided the subjects in developing their skills with using the target structures in written English (Gillian 2008).

CHUNKING

Chunking is the splitting of longer instructions into smaller segments for easier processing (Coufal 2002). Chunking permits each individual instruction to act as a scaffold to generate more individual teaching segments for each student (Coufal 2002).

RESEARCH EVIDENCE FOR CHUNKING

Researchers have acknowledged that chunking should be considered as a teaching technique for delivering instructions (Alklind Taylor 2013, Van der Kleij et al. 2015); however, to date, only a small number of experimental studies have examined the effectiveness of chunking as an instructional strategy in GBL (Munyofu et al. 2007, Van der Kleij et al. 2015). Of those, the study carried by Munyofu et al. (2007) with 85 subjects divided into three treatment groups to examine the effects of different chunking strategies to facilitate achievement of higher order learning objectives noted significant differences. The study showed two major points: firstly, specifically designed chunking techniques promoted animated instruction to aid higher-order learning aims; secondly, complex chunking was more effective in reducing the cognitive load present in an animated instructional environment (Munyofu et al. 2007).

DIRECT FEEDBACK

In writing, direct feedback is when a teacher puts a response or responses above, below, or near the inappropriate target structure (Bitchener & Knoch 2010). Examples of direct feedback can be the crossing out of unneeded morphemes, words, and phrases and the addition of missing morphemes, words, and phrases (Bitchener & Knoch 2010b). Extra feedback can be written or oral meta-linguistic feedback about the target structure (Bitchener & Knoch 2010b).

EVIDENCE FOR DIRECT FEEDBACK

A number of studies in the area of ESL writing have indicated that direct feedback is more effective for students, as this type of feedback gives comprehensible information about the target structure in contexts where development of language is the primary goal (Bitchener & Knoch 2010a, 2010b, Ferris et al. 2013, van Beuningan et al. 2008, 2012).

MATERIALS

E-LEARNING TOOL

The e-learning tool was designed and created by the first author to learn about the appropriate use of English articles. This web-based learning software used the Moodle learning management system (LMS) (Dougiamas 2016). The LMS was uploaded with animated videos to deliver the instructional modules and interactive quizzes where the users chose the appropriate articles in simple, compound, and complex written sentences. The videos and quizzes were created as modules to present the concepts in the assessment and teaching stages employing Master's binary schema, explicit instruction, chunking, and direct feedback. The following sections explain and discuss how explicit instruction, chunking, and direct feedback were employed in the e-learning tool.

EXPLICIT INSTRUCTION

The e-learning tool employed explicit instruction to teach the complex concepts associated with English nouns and article usage. The following figures present screenshots from the e-learning tool taken from the section explaining nouns.



FIGURE 1. Noun explanation screenshot 1



FIGURE 2. Noun explanation screenshot 2

As shown in Figure 1 and Figure 2, the language explaining the concepts of *nouns* is clear, simple, and direct in order to aid the students' comprehension of these concepts needed to understand the target structure. The e-learning tool explicitly highlights that *nouns* are prototypically words that represent people, animals, and things (Gillian 2017).

CHUNKING

The e-learning tool applied chunking of instructions to the teaching noun and article usage concepts.



FIGURE 3. Chunking of instructions screenshot

As seen in Figure 3, the user sees and hears an instruction segment to explain the concept of *classifying nouns*. The instruction in this speech bubble is only three words long to present the user with a smaller segment to process. All speech bubbles for the instructional videos had eight words or less to satisfy the teaching principle of chunking.

DIRECT FEEDBACK

The e-learning tool also employed direct feedback to teach the complex concepts associated with English nouns and article usage. Direct feedback can be responses given by the teacher above, below, or near the inappropriate target structure (Bitchener & Knoch 2010b). Also, direct feedback can be written meta-linguistic feedback about the target structure to increase understanding of underlying concepts (Bitchener & Knoch 2010b). Figure 4 shows an example of direct meta-linguistic feedback from the e-learning tool.

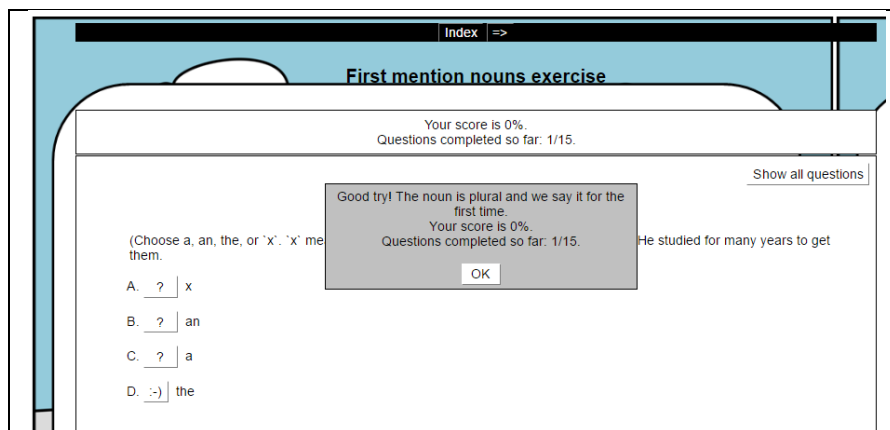


FIGURE 4. Direct meta-linguistic feedback screenshot

Figure 4 shows the direct meta-linguistic feedback for the inappropriate response given by the user in this exercise. The direct feedback tells the user the noun is plural and tells the user about the first-time-use context for the noun. This concept of direct feedback ties in with the idea of explicit instruction which also includes specific feedback on the students' performance (Troia & Graham 2002).

METHOD

MAIN STUDY

Using Master's binary schema, explicit instruction, chunking, and direct feedback, this research investigated whether an e-learning approach was more effective than traditional written language (pen and paper) instruction in improving the appropriate use of articles in simple, compound, and complex written sentences by 13 to 14-year-old Polish learners of English over a ten-week period. A pre-test/post-test design was employed in two junior high schools. Each school had an e-learning group who used the e-learning tool and a traditional teaching group who were taught with a traditional teaching approach. The design included the following stages: (a) a pre-test stage at the beginning of the ten-week period, (b) a teaching stage incorporating a comparative design and (c) a post-test stage immediately after the teaching stage.

The e-learning group used the e-learning tool designed and created by the researcher as described earlier to learn about the appropriate use of English articles. The traditional group learnt about the appropriate use of English articles as a list of rules which were based on the Quirk et al.'s usage classification (Quirk et al., 1985). The handouts and exercises were adapted from the handouts found on the englishpage.com website.

MAIN STUDY RESULTS

OVERALL RESULTS

The overall results showed that the e-learning tool employing Master's binary schema, explicit instruction, chunking, and direct feedback was more effective than the traditional teaching method. Table 3 displays the overall descriptive statistics for the e-learning group and the traditional group at the pre- and post-test stages.

TABLE 3. Pre- and post-test stage results

Group	Pre-test stage			Post-test stage	
	N	M	SD	M	SD
e-learning	14	66.14	11.14	75.71	5.43
traditional	16	66.50	10.15	69.18	12.28

The two groups were very similar at the pre-test stage, as displayed in Table 3 (Welch's independent samples *t*-test, $t(26.5) = 0.091$, $N = 30$, $p = 0.928$). Following the teaching stage, the mean score in the e-learning group has improved by 14 percent, whereas the improvement was only 4 percent in the traditional teaching group, a difference which was statistically significant (Welch's *t*-test for independent samples, $t(25.8) = 2.66$, $p = 0.013$), with a large effect size for the change in group scores ($d = 0.98$, $df = 25.8$). The effect was consistent across both schools from which the students were recruited.

INDIVIDUAL SUB-MODULE RESULTS

The individual sub-module results that reflect specific aspects of English article use showed that the e-learning tool was more effective than the traditional teaching method. Independent samples *t*-tests were calculated for the changes in means between the pre- and post-test stages for the e-learning group and traditional group. Table 4 displays some of the results from these analyses:

TABLE 4. Pre-post mean change for individual sub-modules in the e-learning and traditional groups and effect size of the difference between the groups

Individual Module	e-learning pre-post mean change	e-learning pre-post change SD	traditional pre-post mean change	traditional pre-post change SD	effect size (Cohen's <i>d</i>)
countable/uncountable nouns	-2.14	14.77	-29.88	23.22	1.43
two-way nouns	1.43	16.58	-4.25	19.82	.31
first-time-mention-nouns	11.21	15.71	4.38	29.43	.29
definite article with nouns	29.5	46.00	-11.25	30.96	1.04
second-time-mention-nouns	27.14	32.68	9.75	36.16	.51
special second-time-mention nouns 1	7.86	15.78	-8.13	30.38	.66
political nouns	2.143	20.45	-1.81	23.54	.18
geographical nouns	6.43	23.41	7.13	22.37	.03
cultural nouns	7.86	18.88	-4.38	17.12	.68
proper names	12.14	26.07	20.63	37.14	.26

Table 4 reveals two sub-modules (e.g. countable/uncountable nouns, two-way nouns) that showed the traditional group regressed in its post-test mean change. For the classification stage, the *first-time-mention-nouns* sub-module showed both groups improved in their post-test mean change, but the e-learning group improved more. For the identifying stage, the *definite article with nouns* sub-module presented that the e-learning group improved significantly in their post-test mean change while the traditional group regressed significantly. Also, for this stage, the *second-time-mention-nouns* sub-module showed both groups improved in their post-test mean change, but the e-learning group improved more. In the *special-second-time-mention-nouns 1* sub-module, the e-learning group improved significantly in their post-test mean change while the traditional group regressed. This module looked at the context *second-mention-without-first-mention* nouns. For *political*, *geographical*, and *cultural nouns*, the e-learning group improved significantly in their post-test mean change. For *political* and *cultural nouns* the traditional group was noted to regress in their skills. For *geographical nouns*, the traditional group improved their skills, but not as much as the e-learning group. Finally, for *proper names*, both groups improved their skills significantly.

CONCLUSION

The study found that the e-learning tool employing the research-based teaching techniques of Master's binary schema, explicit instruction, chunking, and direct feedback produced a greater improvement than the traditional teaching approach in the appropriate usage of English articles by thirteen- to fourteen-year-old participants. The overall results supported this conclusion in that that e-learning group significantly outperformed the traditional group in the immediate post-test in the overall scores. The overall results strongly suggest that the e-learning tool is more effective than traditional teaching approaches when teaching the difficult and complex semantic/syntactic structures that are English articles.

These results support previous studies carried out by Master (Master 1988, 2003) and Huong (2005) looking at the use of Master's binary schema in English article teaching.

When looking at the classifying stage results, the e-learning group achieved a large amount of progress in their *countable/uncountable noun*, *two-way noun*, and *first-time-mention-noun* recognition. On the other hand, the traditional group regressed in their knowledge of noun concepts and made a small amount of progress with *first-time-mention-nouns*. The explicit knowledge of nouns is very important in aiding students to decide which

articles can go with which noun e.g. the indefinite articles cannot go with plural countable nouns or uncountable nouns. The first-time-mention-nouns context is very important for teaching as it is the one of the major English article usage patterns (Huong 2005, Król-Markefka 2010, Master 1988 & 2003, Zabor 2011).

When looking at the identifying stage results, the e-learning group achieved a significant amount of progress with their recognition of the *definite article with nouns* and *second-time-mention-nouns*. These skills are very important as one of the other major patterns employed in English article usage is second-time-mention where the definite article is used (Huong 2005, Król-Markefka 2010, Master 1988, 1996 & 2003, Zabor 2011).

The study also found that the e-learning group outperformed the traditional group in the immediate post-test in the *special second-time-mention nouns I* scores. This sub-module covered nouns that are used with the definite article *the* for the first time in a discourse and these results suggested that it is worth teaching this particular context of English article usage patterns. Also, the study found that the e-learning group outperformed the traditional group in the immediate post-test in the areas of *political* and *cultural nouns*. These sub-modules covered the complex article usage patterns associated with these nouns and these results suggested that it is worth teaching these particular contexts of English article usage patterns.

Overall, the results clearly suggest that Master's binary schema, explicit instruction, chunking, and direct feedback are effective teaching concepts for teaching English articles. Master's binary schema is effective as it simplifies the decision-making needed to choose the appropriate article for a noun in a particular context and it also covers most of the major contexts found in English article usage. Explicit instruction is important, as the students are given clear and simple information about the complex concepts associated with English nouns and articles. Chunking of the instructions is effective as it allows the students time to process these difficult concepts. Direct feedback is important as it gives the users directed information about their performance in order to aid their development of English article usage skills. The course is available at <http://www.gil-article-teacher.pl/moodle/>; please contact the author at edwardjgillian@gmail.com if you wish to be set up as a user of the system.

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