Semantic Classes and Syntactic Orders of Adverbial Clauses in a British Cookbook

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Abstract

This study examines the semantic classes and syntactic order of English adverbial clauses in *knead until smooth*, a British cookbook by Jamie Oliver (2020). Adverbial clauses are important in English language use since they help support the flow of information (Diessel, 2005). While previous studies focused on English adverbial clauses in scientific texts, psychological texts, and argumentative essays, the results of these previous studies show that conditional and concessive adverbial clauses are productive in these studies. To date, no study examines English adverbial clauses in cookbooks. This study contributes something new in the field by investigating English adverbial clauses in a British cookbook as it is considered as everyday reading material. The data is collected from Jamie Oliver's (2020) cookbook since he is globally accepted as a celebrity chef. Therefore, the data in his cookbook is regarded as a reliable source (Piper, 2015). The British English variety is focused on this study as it is a variety whose literature has been circulated the widest. The total data collection from the source is 60,000 words, made up of 81 extracted tokens of various adverbial clauses. The data analysis of adverbial clauses in cookbooks will be classified according to their semantic classes, such as temporal adverbial clauses, concessive adverbial clauses, and adverbial clauses of the result. The results in this study reveal that temporal adverbial clauses occur the most at 90 percent (i.e. *let it all get golden, while you heat the grains according to the packet instructions* and *wait until it turns golden*). The high frequency of temporal adverbial clauses in this study is explained by the principle of iconicity and the end-weight principle. It is hoped that the results of this study will be useful for those learners of English and a Foreign Language (EFL) and English as a Second Language (ESL).

Keywords: *Adverbial clauses, British cookbook, Principle of iconicity, The end-weight principle*

1. Introduction

English adverbial clauses are complex sentences that have components of the main clause and a subordinate clause (Filipova, 2012). Adverbial clauses are important as it helps to supports the flow of information (Diessel, 2005). Using these clauses helps the speakers or the writers to create coherence to connect ideas more effectively. With this idea, conjunctions, such as *since*, *if,* and *while* are important linguistic expressions. Examples of conjunctions used with adverbial clauses are shown in (1).

(1)
(a) Her life has changed **since she had her baby.**
(b) I will marry him **if he gets a divorce**.

(Sæbø, 2011, p. 4)

Example (1a) represents temporal adverbial clauses where they are used with the conjunction *since*. However, (1b) represents conditional adverbial clauses used with *if*. Aside from the various meanings of adverbial clauses, there are three kinds of adverbial clauses in English as in (2).

(2)
(a) **Once the water has boiled,** add vegetables.
(b) **Once boiling,** add vegetables.
(c) **When I was young,** I liked reading comics.
(d) **When young, I liked reading comics.**

(2a) and (2c) are *finite adverbial clauses*. (2b) is a non-finite adverbial clause. (2d) is a verbless adverbial clause (Diessel, 2005; Mala, 2005; Swan, 2016; Tuchscherer, 2016). The unique characteristics of adverbial clauses are that they can be used in different positions as in (3) and (4).

(3)
(a) **As Peter came late**, the meeting was cancelled.
(b) **When the airplane landed**, it was already dark.

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(4)
(a) The meeting was cancelled **as Peter came late**.
(b) It has already been dark **when the Airplane was landed**.

While the position of adverbial clauses in (3) is initial, it is also an alternative for these adverbial clauses to occur in a final position as in (4). This study focuses on the use of different positions of adverbial clauses to explain when and why it occurs in one position over the other. Most of the previous study focuses on the study of adverbial clauses in formal academic texts, such as academic texts, scientific texts, and argumentative essay, this study will fill the gaps by contributing to the study of adverbial clauses in English cookbooks. Accordingly, the objectives of this study are to examine the semantic classes and the positions of adverbial clauses in a British cookbook by Jamie Oliver (2020).

2. Literature Review

This section reviews various theories applied to test adverbial clauses in English and the previous studies of adverbial clauses in text varieties.

2.1 Cognitive linguistic theories to test adverbial clauses

Various cognitive linguistic theories are applied to test the use of adverbial clauses in English. Prideaux and Hogan (1993) applied the principle of *markedness* to the study of different positions of adverbial clauses. The principle of markedness divides the use of language into categories. One of them is a common pattern, while the other is an uncommon pattern. When applying these concepts to adverbial clauses that are used with main clauses, example (5) could be applied as the following interpretation.

(5)
(a) **Before Sue left home**, she turned off the light.
(b) Sue turned off the light **before she left home**.

(Prideaux & Hogan, 1993, p. 399)

In (4a), the adverbial clause precedes the main clauses. In contrast, it is the opposite in (5b). With these different patterns, Prideaux and Hogan (1993) addressed that (5a) is markedness interchangeably known as an uncommon pattern. On the other hand, the pattern in (5b) is unmarkedness. Prideaux and Hogan (1993) commented that an adverbial clause is used in the final position is a common pattern in English.

In addition to markedness, Diessel (2005) and Tuchscherer (2016) addressed the principle of discourse pragmatic factor to interpret the different positions of adverbial clauses. Discourse pragmatic factors refer to the given/old and new information (Diessel, 2005; Wiechmann & Kers, 2013; Tuchscherer, 2016), such as (6).

(6) The evaluation shows that two-thirds of surveillance activity shifted from hospital clinics to primary care, with more effective coverage in the prompted group than in the control group and acceptance levels well above 80%. **Although these findings are encouraging**, only people regularly attending diabetic outpatient clinics were studied and only half of those eligible took part.

(Wiechmann & Kerz, 2013, p. 6)

Example (6) shows that the concessive adverbial clause is used as a bridge to summarize the given information in the previous section first before the writer makes an argument by giving a new piece of information (Wiechmann & Kerz, 2013).

While discourse pragmatic factor supports the flow of given and new information, Wiechmann and Kerz (2013) described the different positions of adverbial clauses based upon the principle of *processing-based account*. The shorter clause is likely to occur in an initial position, but the longer clause tends to occur in the final position known as *"short before long ordering"*. In terms of length, this could be explained by the end-weight principle. A shorter clause is written at the initial position, while a longer clause is likely to be written at the final position (Wiechman & Kerz, 2013; Megitt, 2019).

In addition to the end-weight principle, *deranking* is also introduced to interpret different positions of adverbial clauses. In the deranking principle, they are two main components, which are *balanced adverbial clauses* and *deranked adverbial clause*s as in (7). Balanced adverbial clauses refer to those clauses with

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finiteness; however, deranked adverbial clauses are oppositely known as non-finite clauses (Wiechmann & Kerz 2013; Razaee & Golparvar, 2016).

(7)
(a) **When I listened to this song**, I smiled.
(b) **When listening to this song**, I smiled.

Example (7a) shows that the adverbial clause *when I listened to this song* is tensed as in *listened*. However, example (7b) *when listening to this song* in non-tensed. Therefore, balanced adverbial clauses express finite adverbial clauses, whereas deranked adverbial clauses indicate non-finite adverbial clauses.

The iconicity of sequence refers to the sequence of events where prior events are expressed before subsequent events (Diessel, 2008), as in (8).

(8)
(a) I visited my aunt, **before I went home**.
(b) **After I had dinner**, I went to see a movie.

(9)
(a) !**Before I went home**, I visited my aunt.
(b) !I went to see a movie, **after I had dinner**.

In (8), the main clause *I visited my aunt* and the temporal adverbial clauses *after I had dinner* are those events that take place before the others. Ordering clauses in this way follow the iconicity of sequence. However, examples (9) show that they are grammatically correct, but they violate the iconicity of the sequence where the events that took place subsequently come first, while the event that took place first-come later-come. This study will focus on these cognitive linguistic theories to test the use of adverbial clauses in a British cookbook.

2.2 Text varieties

Previous studies observed adverbial clauses in different text varieties, such as academic texts, narrative writing, and scientific texts. Chafe (1984) employed academic texts to observe the positions of adverbial clauses. The results showed that most adverbial clauses occur at initial positions at 62.9 percent. The use is explained by the principle of guideposts, referring to given data before the information that the writer wants to guide as in (10).

(10) […] **because I'm an advisor**, I have to be on campus in the afternoon too […]

(Chafe, 1984, p. 445)

In (10), the writer provides the guidepost concerning his/her position first before giving information that he/she wants to guide. Along the same lines, Mala (2005) also explains that adverbial clauses in the final position are due to the writer's subjective comment, as in (11).

(11) The importance looks becomes even more **when considering the type of occupations to which girls, often unrealistically aspire.**

(Mala, 2005, p. 92)

The interpretation of adverbial clauses as a comment function in (10) is due to the epistemic verb *considering*. Prideaux and Hogan (1993) employed narrative writing to examine adverbial clauses where the result shows that it is higher for the main clause to precede adverbial clauses. Also, Wiechmann and KerZ (2013) used British National Corpus (BNC) to study concessive adverbial clauses, such as *although* and *whereas.* The result shows that the majority of concessive adverbial clauses appear in the final position. Most of them are used with the reason of discourse pragmatic factor (Wiechmann & Ker, 2013). Tuchscherer (2016) used a scientific textbook to observe the finite adverbial clauses. 46 tokens of adverbial clauses were studied. Most adverbial clauses occur in the initial position at 63 percent. such as (12).

(12) In space there are stars known as red supergiants. **When a red supergiant becomes very massive**, it can lose its outer layers in a huge explosion.

(Tuchscherer, 2016, p. 5)

When and *if* reach the most common uses in this textbook at 37 percent and 21.7 percent, respectively (Diessel, 2005). Diessel (2005) selected three sources in conversation, fiction, and scientific writing. The adverbial clauses are likely to occur more frequently in the written register mostly at the final position as in (13).

(13)
(a) It had certainly changed in the short hour **since I had come out**.
(b) Dan orders rare steak for both of us and **after he's finished his, he leans and spears the half of mine that's left with his fork**.

(Diessel, 2005, p. 454)

Furthermore, Diessel (2005) deployed English conversation to study causal adverbial clauses. The result shows that the majority of occurrence is in the final position.

Razaee and Golparvar (2016) used the data of English applied linguistics written by native speakers to study temporal adverbial clauses, including *when, after,* and *before.* The result shows that most temporal adverbial clauses are used in the final position at 64.8 percent. Gustilo (2010) used applied linguistic research as written by English second language learners to observe adverbial clauses. Gustilo's (2010) findings showed that conditional adverbial clauses and causal adverbial clauses are the most used at 75 percent as in (14).

(14) The present study is exploratory in nature **since it aims to show how English teacher take part in the social constructions of knowledge.**

(Gustilo, 2010, p. 32)

Within the categories of causal adverbial causes, the adverbial subordinator *since* is mostly used as in (14). Hastuti (2009) used 35 articles in the *Time Magazine* to study adverbial clauses. Temporal adverbial clauses and conditional adverbial clauses occur the most at 55.2 percent and 16 percent, respectively (Hastuti, 2009). Temporally, the frequent subordinators that appear in this category are *when*, *as* and *after*. Conditionally, the subordinator *if* occurs the most as in (15).

(15)
(a) **As Manhattan real estate prices have skyrocketed**, the districts legacy and its perch top Central Park have enticed real estate developers searching for the next up-and-coming neighborhood.
(b) **Although Australian rice represents only 0.2% of world rice production,** it accounts for more than 4% of the global rice trade […]

(Hastuti 2009, p. 50)

Hastuti's (2009) study shows that the types of semantic markers as in temporality, concession, and condition appear frequently in the magazine, whereby *when* and *although* are the productive use in this text variety. Besides, Filipova (2012) used health psychological texts to study a variety of adverbial clauses. About 80 percent of occurrences are adverbial clauses of reasons and conditional adverbial clauses as in (16)

(16)
(a) **Because everyday work is so repetitive and familiar to us**, we know exactly what it does to us.
(b) We see a familiar face in the mirror, **if there are other people around, they also look and sound very familiar**.

(Filipova, 2012, p. 28)

Diessel (2008) used the International Corpus of English to study temporal adverbial clauses, *when, after, before*, *until,* and *once* a total of 570 extracted tokens. The results show that the majority of temporal adverbial clauses conform to the principle of iconicity of sequence referring to a prior event preceding a subsequent event. Besides, Aarts (1988) studied concessive adverbial clauses in a variety of British written texts, such as essays, letters, journals, arts, non-fiction, persuasive writing, and legal language. Aarts (1988) refers to concessions as differences between the main and subordinate clauses. The concessions can be divided into central concession and peripheral concession. Central concession refers to the occurrence of surprise in one clause, while peripheral concession is defined as concessive subordinators with multifunction. For example, the conjunction *if* could be interpreted as either condition or concession. With nine concessive

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subordinators as in *although, though, even though, whereas, if, even if, while, whilst* and *when*, the concessive subordinators *although* and *though* are generally used the most in British written texts at 68 percent. However, the differences between the use of *though* and *although* are about formal and informal register. While *although* is rather used in a formal register such as medical correspondence and examination essay, such as (17), *though* is often found in business letters.

(17) […] **although we must allow for the convention of apology**, there does seem in Sidney's work a certain of scorn for the writings being produced.

(Aarts, 1988, p. 48)

Most uses of *though* occur at the final position at 64 percent. On the other hand, the uses of *although* in the initial position and final position are 51 percent and 49 percent, respectively.

Peacocks (2010) studied adverbials in 320 research articles in the fields of science, such as chemistry and neuroscience, and non-sciences, such as linguistics and economics. For example, *she had never heard of him, though she did not say so* (Peacocks, 2010, p. 12). This is included in the category of concession indicating contrasting information (Peacocks, 2010). The result in this study interestingly shows that the use of concessive adverbial *though* is in the field of non-science, such as linguistics is much higher than science, such as chemistry. Furthermore, Phoocharoensil (2017) used the Corpus of American English COCA to study linking adverbials *(hence, so, therefore,* and *thus)* in the academic genre. Interestingly, not only did he find the standard pattern of linking adverbial in this corpus, but also other patterns of use that are never recorded in grammatical references. The results in his study show that the use of *thus* occurs the most followed by *therefore*, *so,* and *hence*.

(18)
(a) […] will cause EPA to insist upon submission of the SIP by the original deadline **and thus trigger potential sanction.**
(b) […] the real cost of books astronomical. The public library, wherever it exists, **therefore become much more crucial to democratizing information**.
(c) […] model organize complex ideal types **so** we can simplify and understand social phenomena.
(d) For example, the response to the newspaper advertising was relatively low, **and hence we asked train passengers to participate in order to bolster our sample size**.

(Phoocharoensil, 2017, pp. 158-163)

Phoocharoensil's (2017) results of the study encourage English instructors to use the patterns that do not occur in grammatical references to teach their learners. Ji (2010) used narrative texts to study preposed temporal adverbial discourse functions. The results show that the majority of preposed temporal adverbial clauses are used with the two functions. One of them is liking between given and new ideas and the other function is to provide a new starting point, as in (19).

(19)
(a) Ryan says he is sorry for what happened. **When I asked him what exactly did happen**, he had no explanation.
(b) The third of four sons of a shipyard worker, his early years had been spent in grinding poverty in the dockside areas of Sunderland. **When his mother died from cervical cancer**, his father was unable to cope and the three oldest boys went into care […]

(Ji, 2010, p. 4)

The preposed temporal adverbial clause in (19a) links the given information in the previous sentence when the information of the main clause is used with an adverbial clause. The temporal adverbial clauses in the initial position in (19b) are used to provide a new point. George (2012) used argumentative essays to study adverbial clauses and different positions of adverbial clauses. The results show that temporal adverbials, conditional adverbials, and causal adverbials are the most common occurrences in this type of writing. Regarding the position of occurrences, the majority of temporal adverbial clauses and conditional adverbial clauses are usually used in the initial position. On the other hand, causal adverbial clauses always occur in the final position. Also, temporal and conditional adverbial clauses are always used with punctuation.

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Accordingly, the use of these text varieties will be used to compare with the data of a British cookbook in this study.

3. Method

The study selects a source of reading that everyone can read. According to Kaneyasu and Kuhar (2020), cookbooks are general reading and suitable for all readers. It presents procedures of how food is cooked, in steps (Kaneyasu & Kuhar, 2020).

Cookbooks have unique characteristics. For example, one of the common characteristics of cookbooks is their use of imperative structures. Adverbs are productively used in cookbooks. Kaneyasu and Kuhar (2020) compared the use of verbs, adjectives, and adverbs in cookbooks and they found that the number of adverbs in the cookbook is much higher than the others. Moreover, cookbooks are a type of process writing that comprises a lot of modifiers (Ekasani, Yadnya, Artawa & Indrawati, 2018). In terms of English variety, this study selects to study British variety of English in a cookbook because the number of British native speakers is larger and their literature has been circulated the widest (Schmitt & Marsden, 2006).

The study selected a cookbook by Jamie Oliver: 7 Ways published in 2020. Jamie Trevor Oliver is a British chef, born in Essex, the United Kingdom (Piper, 2015). He owns many restaurants around the world such as Barbecoa, Jamie Oliver's Diner, and Fifteen Restaurant. He is in the front roll of cooking television shows in the UK and his shows are exceptionally broadcasted in many countries around the world. He has earned many awards, such as the BAFTA award and Academy Television Awards (wikipedia.org). With his well-known reputation and his experience in the field, his cookbook is considered reliable to study.

Regarding the number of data collection, there are 60,000 words, which is made up of 81 tokens, including 3 types of adverbial clauses with an entire 81 sentences. These collected data will be analyzed based on the semantic class below.

Table 1 The analysis of semantic classes of adverbial clauses
(20)

Semantic Classes	Examples
Temporal adverbial clauses	(a) Let it all get golden, **while you heat the grains according to the packet instructions.** (b) **Once cool enough to handle**, flatten out with oiled hands to a rectangle about 1 CM thick.
Conditional adverbial clauses	(c) Roll up and place it in the oiled tray, folding in the edges, **if needed**.
Adverbial clauses of results	(d) Peel and dice the sweet potatoes **so they're twice the size of those in your chopped veg bag**.

There are several steps in how the data were analyzed and validated. After the process of selecting a cookbook as mentioned above, the actual data in a British cookbook was read twice to seek adverbial clauses. The researcher looked at the keywords of adverbial connectors in cookbooks such as *when*, *while*, *until*, *so*, *before*, *once, since,* and after. Once they are found, each sentence will be cut from the source text to be studied as in (21).

(21)
Steak Sandwich, Japanese-Style
Use a speed-peeler to peel the cucumber, then finely slice into rounds. In a bowl, toss with a pinch of sea salt and 1 tablespoon of red wine vinegar, and leave to quickly pickle. **[TEMPORAL ADVERBIAL CLAUSE] In a non-stick frying pan, toast the sesame seeds until lightly golden**. Then remove. Cut off and discard the fat and sinew from the steak, then season the steak.

(Oliver, 2020, p, 278)

The bold sentence in (21) *in a non-stick frying pan, toast the sesame seeds until lightly golden* will be cut from the original text and it was counted as a token. This process ran from the whole text of a British cookbook. As a result, the whole British cookbook provides 81 tokens. The second process is that they are

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classified into different semantic classes. As shown in (21), the semantic class of this category is a temporal adverbial class. So, 81 sentences containing adverbial clauses were taken a closer look to interpret their semantic class and count their frequency. After the process of examining their semantic was completed, the syntactic order of each token of adverbial clauses was then examined. For example, the syntactic order of adverbial clauses *until lightly golden* is interpreted as a final position.

To ensure the reliability of the result of this study, the process of IOC (Index of Item-Objective of Congruence) is applied to check the accuracy of data analysis. As they are 81 tokens found in this study, some of them were randomly validated by three experts in the field of English according to Table 2.

Table 2 the validation of adverbial clause in this study

Tokens	Semantic Classes	Agree	Disagree	Comments
1) Let it all get golden, **while you heat the grains according to the packet instructions.**	Temporal adverbial clauses	✓		
2) Roll up and place it in the oiled tray, folding in the edges, **if needed**.	Conditional adverbial clauses	✓		
3) Peel and dice the sweet potatoes **so they're twice the size of those in your chopped veg bag**.	Adverbial clauses of result	✓		

According to Table 2, if a rater agrees with the data analysis and put a tick, a score was given. However, if the rater disagreed, the score was zero, so the token that the rater disagrees was reconsidered. With this data collection, data analysis, and data validation the results and discussion in this study will be presented in the following sections.

4. Results and discussion

The section reports the results and discussion of the use of adverbial clauses in a British cookbook.
4.1 Frequency and percentage of adverbial clauses in a British cookbook

Approximately 60,000 words in a British cookbook provided 81 different types of adverbial clauses as illustrated in Table 3.

Table 3 Classifications of Adverbial Clauses in a British Cookbook into Semantic Classes

Types of adverbial clauses	Frequency (Tokens)	Percentage (%)
Temporality	73	90.12%
Concession	6	7.41%
Result	2	2.47%
Total	81	100%

Table 2 shows that there are three types of adverbial clauses is available in a British cookbook by Jamie Oliver (2020). The temporal adverbial clauses in the British cookbook are found the highest percentage at 90.12 percent. The concessive adverbial clauses and the adverbial clauses of results are rarely found at 7.41 percent and 2.47 percent, respectively. These occurrences of adverbial clauses are found with seven connectors as in Table 4.

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Table 4 Frequency and Percentage of Adverbial Connectors in British Cookbooks

Categories	Adverbial Connectors	Frequency	Percentage (%)
Temporality	*until*	47	58.02%
	while	9	11.11%
	once	8	9.88%
	when	6	7.41%
	before	3	3.7%
Concession	*if*	6	7.41%
Results	*so*	2	2.47 %
	Total	81	100%

As mentioned earlier, the most frequent occurrence of temporal adverbial clauses is *until* at 58.02 percent followed by *while* and *once* at 11.11 percent and 9.88 percent, respectively. The only use of concession *if* occurs at 7.41 percent, whereas the sole use of adverbial clauses of results *so* occurs at 2.47 percent. Moreover, the use of different adverbial clauses shows the occurrences in different positions as in Table 5.

Table 5 Adverbial Connectors in British Cookbooks in Different Positions

Positions	*if, so, until,* and *while*	*once*	*when*	*before*
Initial	0 (0%)	8 (100%)	5 (83.34%)	2 (66.67%)
Final	64 (100%)	0 (0%	1 (16.665)	1 (33.33%)

Different adverbial clauses in the British cookbook are likely to be used in a specific position. The l adverbial clauses are divided into two groups between the group of initial position and the group of the final position. The adverbial clauses used with *if, so, until,* and *while* are always used in the final position at 100 percent. On the other hand, the majority of adverbial clauses used with *once, when,* and *before* are likely to be used in the initial position.

4.2 Semantic classes of adverbial clauses in cookbooks as compared with other text varieties

As presented in the descriptive statistical data above, temporal adverbial clauses show the highest frequency in the data of British cookbooks where examples are shown as follows:

(22)

(a) Bake for 10 minutes or **until lightly golden.**

(b) Let it all get golden, **while you heat the grains according to the packet instructions.**

(c) **When it starts to sizzle**, transfer it to the oven for 40 minutes.

(d) **Once hot**, cook the salmon in ½ a tablespoon of olive oil for 4 minutes.

(e) Add a ladleful of stock and wait **until it is fully absorbed before adding another**.

(Oliver, 2020)

Temporal adverbial clauses, such as *until*, *while*, *when,* and *once* are productively found in the British cookbook of a current study. When comparing the frequent occurrence of temporal adverbial clauses of a British cookbook with other text varieties in previous studies, they are both similarities and differences. In terms of similarities, the high-frequency use of temporal adverbial clauses available in cookbooks appears similarly to narrative texts. As supported by Ji (2010), temporal adverbial clauses frequently occur, such as in (23).

(23)

(a) Ryan says he is sorry for what happened. **When I asked him what exactly did happen**, he had no explanation.

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(b) The third of four sons of a shipyard worker, his early years had been spent in grinding poverty in the dockside areas of Sunderland. **When his mother died from cervical cancer**, his father was unable to cope and the three oldest boys went into care […]

(Ji, 2010, p. 4)

Unlike cookbook and narrative texts, the productive use of adverbial clauses in scientific, psychological, and argumentative texts is causal adverbial clauses to indicate reasons. Filipova (2012), for example, used health scientific texts to observe adverbial clauses and the results showed that the most frequent semantic class of type adverbial clauses in this category is about reasons as they commonly occur in the initial position at 63 percent as in (24).

(24) **Because everyday work is so repetitive and familiar to us**, we know exactly what it does to us.

(Filipova, 2012, p. 28)

With these examples, when the researchers specifically look at the types of adverbial clauses in certain text types, it makes the result clear-cut regarding the use of adverbial clauses in certain varieties of text. Unlike a cookbook, adverbial clauses in the field of applied linguistic research are usually used with the semantic class of conditional adverbial clauses. For example, Gustilo (2010) observed the adverbial clauses in English applied linguistics as written by non-native speakers. The results showed that non-native English speakers use conditional adverbial clauses at 75 percent as in (25a). On the other hand, Rezaee, Nemati, and Golparvar (2018) used English applied linguistics as written by native speakers. The results showed that the adverbial clauses in English applied linguistics wrote often occur with the type of reasons as in (25b).

(25)

(a) This is a big turn from the FTA since the writer uses another positive politeness strategy by stating the advantages people (the Arab nation in particular) will get **if the previous suggestions are carried out.**

(Gustilo, 2010, p. 32)

(b) "The English words were selected from the 5,000 frequent words in COBUILD corpus (Bank of English). **Because these frequencies** might not apply to FL/L2 learners, the selected words were checked against a word list based on EFL textbooks used in the Netherlands."

(Rezaee, Nemati & Golparvar, 2018, p. 336)

The use of clausal adverbial clauses in an initial position as in (13b) is because of bridging as the referential pronoun *these frequencies* is interpreted as given information as it links to the previous information in the previous sentence as in *the 5,000 frequent words*. To sum up, different text varieties are likely to have different productive uses of adverbial clauses.

4.3 Order of Adverbial Clauses in Cookbooks

It is obvious that the use of temporal adverbial clauses such as *until, when, once* and *before* could be effectively explained by the principle of iconicity, referring to the order of prior events before subsequent events (Crompton, 2014; Diessel, 2008) where the data as shown below is explained as followed.

(26)

(a) Knead **until smooth** […]

(b) Add a ladleful of stock and wait **until it is fully absorbed** […].

(c) Dice the pork into 2cm chunks, then toss with prawns and cornflour **until well coated.**

(27)

(a) **Once the skin is crispy**, move it to sit on top […]

(b) **Once hot**, add the pork steak and cook for 8 minutes or until golden […]

(c) **Once boiling**, turn the heat off and gently arrange the potatoes on the surface of the stew […]

(28)

(a) Place the skins in the pan to crisp up on both sides, removing it **when golden**.

(b) **When the time's up**, pull out the tray and pour the egg mixture over the salmon and into the gaps

(c) **When it's looking really golden**, roll the pastry out a little to fit the pan and place it over the top […]

(29) Add a ladleful of stock and wait until it fully absorbed **before adding another.**

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<div align="right">(Oliver, 2020)</div>

As presented in the examples above, the positions of adverbial clauses either initial or final positions are influenced by the facts of cooking which are properly ordered into a cooking recipe. The adverbial clauses *until* in the final position as in (26) signal an endpoint or the outcomes of the results such as *smooth*, *aborted,* and *well coated*. The adverbial clause *once* as in (27) suggests the beginning of something, such as *be crispy*, *be hot*, and *boiling*. The use of adverbial clauses *when* as in (28) that are used in different positions also denote different sequential order. In (28a), *when golden* is a subsequent event that is why this adverbial clause is placed in the final position. The adverbial clauses *when* in (29b) and (28c), suggest the endpoint of something before the next actions could take place. In (29), *before* suggests a sequential event, so it is placed in the final position.

4.4 End-weight principle

While the adverbial clauses in this study are well applicable to the principle of iconicity, the data also shows that it is applied with the end-weight principle referring to *"short before long ordering"* (Wiechman & Kerz, 2013) as in (30). As the adverbial clauses *while* denotes simultaneity, which means that the two events could occur at the same time as in (30).

 (30)
(a) Let it all get golden, **while you heat the grains according to the packet instructions**.
(b) Cook and Char for 10 minutes, turning halfway, **while you pinch off and discard the tomato skins and roughly chop 1-2 of the chilies, to taste.**
(c) Drain the veg and leave to stream dry, **while you core the apples and dice into 1½cm chunks.**
(d) Place in the pan to lightly char for 3 minutes, **while you squeeze the lime juice into a blender with ½ a tablespoon of red wine vinegar.**

<div align="right">(Oliver, 2020)</div>

Since *while* denotes simultaneity, all uses of *while* in this study occur in the final position where the appearance of clauses is longer and heavier. This kind of use of language applies well to the theory of the end-weight principle.

5. Pedagogical implications

This study is also useful for learners who learn English as a Second Language (ESL) and English as a Foreign Language (EFL). As they are a variety of semantic classes in adverbial clauses in English. Teachers could make it more focus by selecting the common types of adverbial clauses that frequently occur in English cookbooks to teach their English language learners when doing process paragraph writing. Moreover, when English language learners practice writing their process paragraph writing in cooking, they need to be able to provide steps of their cooking process which one comes first, which process comes later. In doing this, knowing temporal adverbial clauses as frequently found in the result of this study will support the flow of learner's writing and creates' effective coherence.

6. Conclusion

This study focuses on adverbial clauses in a British cookbook to observe how adverbial clauses are used in this text variety. The results show that the semantic classes of temporal adverbial clauses are the most productive use in this type of text. The results of the study comply with the principle of iconicity, reflecting that the prior events are likely to be expressed before the subsequent events (Crompton, 2014; Diessel, 2008). The data is applicable with the end-weight principle which means that a prior event comes first, while the subsequent come later. The theory is supported by the empirical evidence in the British cookbook by Jamie Oliver (2020). However, the results of this study are limited to only Jamie Oliver's 7 Ways. Applying the result of this study to other text varieties may not apply to the optimal level. Future research would benefit from the use of a larger range of cookbooks. They can use the notion of adverbial clauses as found in this study to support the flow of information when they do the process writing, especially in the category of the cookbook.

<div align="center">[45]</div>

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