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Teaching Theme choice in literature reviews to undergraduate students

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ABSTRACT

The research applies a systemic functional linguistic (SFL) approach to analyse and then teach academic language of the IMRD (Introduction-Method-Results-Discussion) type structure in the social sciences, and specifically the literature review section in the field of the sociology of sport. Using NVivo 12, corpus analyses of the module's six published articles from ranked journals (14,777 words) from the sociology of sport as well as student drafts (15,949 words) were conducted and comparisons made. Students' texts differed considerably in their use of Theme for authorial stance development, and specifically attribution. With these findings, a text deconstruction was conducted in class to raise students' awareness of the linguistic choices possible for Theme. The paper provides evidence from the intervention. Following students' redrafting of their literature reviews, another corpus analysis of students' texts was conducted, and the post-intervention texts (corpus size of 15,334) compared with the students' originals. Students' use of Theme resources for attribution clearly developed from the input session in terms of both range and frequency of circumstantial Adjuncts and projecting clauses employing reporting verbs (VTHAT) structures. This demonstrated a move away from solely employing information-fronted linguistic resources for attribution. The paper therefore shows how SFL can be concretely used by English for academic purposes (EAP) educators.

1 Introduction

This research investigated students' use of Theme for attribution in literature reviews. Students employed a limited range of Themes as circumstantial Adjuncts to provide extra information to the clause, and few reporting verbs such as 'claim', 'conclude', also known as verbal/ mental processes, in projecting clauses. Students' use of Theme for attribution demonstrated a tendency to solely employ information-fronted linguistic resources. From these observations, an action research cycle was devised. The research sought to explore how effective explicit instruction of Theme use could be taught in class through a detailed text deconstruction, text mining and a corpus comparison technique to develop students' employment of author-fronted attribution. Pre- and post-intervention student writing was observed to gauge the effectiveness of the instruction. A higher frequency and wider range of circumstantial Adjuncts and reporting verbs (mental/verbal processes) were observed across all student texts confirming instructional uptake. These observations demonstrated a shift away from an over-emphasis on information-fronted attribution, which was construed by attributing authors in parenthesis at the end of a clause.

The paper first addresses how Theme for attribution is conceptualised for this research. It was found that using a version put forward by researchers such as Berry (1995), Davies (1997), Forey (2002), and more recently by Bowen and Thomas (2020) was conducive to students' learning in this context. The article then goes on to describe research on Theme use in academic writing. Next, the paper presents how Theme was taught in this research context to facilitate the writing of a literature review section of an IMRD research paper in the Sociology of Sport. To conclude, the research intervention and its impact on student writing is discussed.

2 Literature review

2.1 Defining Theme

The study and pedagogical application of systemic functional linguistics (SFL) described in this paper concerns the area of Theme. Theme is one of the major textual systems as it is 'the resource for setting up a local context for a clause by selecting a local point of departure in the flow of information' (Halliday & Matthiessen, 2013, p. 13). Theme choice is 'crucial to the construal of meaning' (Forey, 2002, p. 52) in advanced writing on research, as part of a literature review of an IMRD paper. In English, Theme is found in initial position within the clause (ibid). To identify Theme, Halliday (1994) states that 'theme extends from the beginning of the clause and up to (and including) the first element that has a function in transitivity' (p. 53). Thus, according to Halliday (1994), the Theme of a clause 'ends with the first constituent that is either participant, circumstance, or process' (p. 52). An 'unmarked' or commonly distributed Theme following Halliday's definition is 'Kaepernick' in the following as it is the first element before the finite verb or predicate:

Kaepernick	left the 49ers.
Theme	**Rheme**

**Table 1:** Example of Theme applying Halliday's (1994) definition

Rheme is 'the remainder of the message' (Halliday, 1994, p. 67) commencing with the predicate, as illustrated by 'left the 49ers' in Table 1. Using Halliday's (1994) model, a circumstantial Adjunct may also realise Theme coming before the Subject, as in the following example:

In 2016,	Kaepernick left the 49ers.
marked Theme	**Rheme**

Table 2: Example of Theme applying Halliday's (1994) definition

Halliday (1994) refers to this as a 'multiple Theme' (p. 52), whereby a textual and/or interpersonal Theme is placed before the topical Theme or Subject. The topical Theme 'Kaepernick' in this case, now belongs to the Rheme. For Halliday, the circumstantial Adjunct is a marked Theme as it does not function in transitivity.

Several researchers have argued that Halliday's (1994) definition of Theme requires adaptation for pedagogic purposes (Berry, 1995; Davies, 1997; Forey, 2002, Bowen & Thomas, 2020). Berry (1995), Davies (1997), Forey, (2002) and Bowen and Thomas (2020) suggest that Theme should include the Subject. Thus, Theme in a declarative clause might include
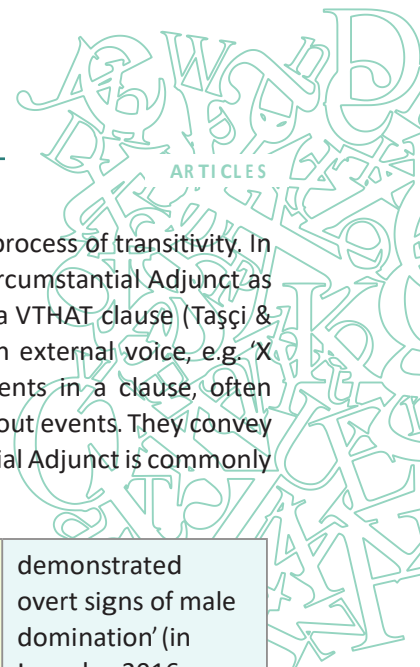
everything up to and including the first participant involved in the process of transitivity. In Table 3, there is an example of an extended Theme comprising a circumstantial Adjunct as well as a projecting clause. A projecting clause, also referred to as a VTHAT clause (Taşçi & Oztürk, 2021), is a proposition grounded in the subjecthood of an external voice, e.g. 'X (author) said that…'. Circumstantial Adjuncts are additional elements in a clause, often separated by a comma and function to provide extra information about events. They convey notions of when, where, how, and why events happen. A circumstantial Adjunct is commonly a prepositional phrase or adverb.

'In a 2-year study of unorganized and spontaneous schoolyard soccer with 9–12-year-old children,	Jonasson (2010) observed that	players	demonstrated overt signs of male domination' (in Larneby, 2016, pp. 1203-1204).
Marked Theme	**Projecting Theme**	**Subject**	**Rheme**
Extended Theme			

Table 3: An alternative Theme

Non-Subject Themes in this example (up to but not including 'players' in Table 3) can be viewed as 'framing elements' for the Subject (Davies, 1997, p. 55). The prepositional phrase as circumstantial Adjunct 'In a 2-year study of unorganized and spontaneous schoolyard soccer with 9–12-year-old children' signals temporality and location; the projecting clause 'Jonasson (2010) observed that…' provides interpersonal as well as experiential meaning as the writer cites the author, giving both the source and herself credibility, while simultaneously providing information about the paper (author and date of publication). The Subject Theme 'players' is viewed as the recurrent element that can be repeated in lexical chains to provide continuity or a change in topic. According to Forey (2002), this extended Theme approach makes the boundary between Theme and Rheme more accessible to researchers and teachers. Forey (2002) explains that 'when conducting an analysis of Theme, including the Subject as part of Theme allows the researcher to see the lexical chains, cohesion and all other choices in the Theme which may have occurred' (p. 56). Based on Forey's (2002) claim, this extended Theme could also be an effective strategy for teaching attribution in literature reviews.

2.2 Attribution

The normative function of the Theme in literature reviews is to orientate readers to the research cited, as writers present the area of study, highlight the debates in the field, and position their study within a context. The linguistic system for citing other authors' works is referred to as attribution in the larger system of APPRAISAL (Martin & White, 2005) from systemic functional linguistics (SFL). Effective use of this linguistic resource helps to construct a writer's academic voice because knowledge of research in the field conveys author credibility (Martin & White, 2005). This function of Theme therefore helps to build the author's persona of expertise.

Additionally, authors can position themselves by 'acknowledging' or 'distancing' from the research cited (Martin & White, 2005). Distance could be created by using a reporting verb such as 'claim', which has less endorsement than 'conclude'. The writer's use of the reporting

verb, or mental/verbal process, is therefore conveying the writer's stance towards the work cited, or interpersonal meaning. Moreover, authors can employ circumstantial elements in the form of prepositional phrases (e.g., 'In their study on …') and adverbial groups (e.g. 'According to …') to provide extra information about a study as shown in Table 3. The functional value of these circumstantial elements is to provide extra information about entities such as people or authors ('Hoberman'), products ('research/findings'), locations in time or place ('in 2017'; 'in the focus group'), and research objects ('the social media site'/ '15 participants').

2.3 Research on Theme in academic English language teaching and learning

Effective use of Theme has been cited as an essential characteristic of successful second language writers of academic English (e.g. Chang, 2010; Chen, 2010; Chen, 2018; Cummings, 2003; Firbas, 1987; Green et al., 2000; Hawes & Thomas, 2012; Jing, 2015; McCabe & Alonso, 2000; Monbec, 2018; 2020; Wang, 2007; Wang, 2010; Yang, 2008). For example, Ma (2001) and Wang (2010) concluded from their corpus research that low scoring English language student writing was characterised by limited use of the various thematic progression strategies, based on Danes' (1974) typology of linear, constant and split Theme patterns. Further research by Ventola (1994) concluded that Themes in low scoring student papers were not effectively constructed to link to prior or following information (for anaphoric and cataphoric referencing respectively). In the same way, Christie and Dreyfus (2007) analysed a weak student's use of Theme and found that there was a 'lack of unity' or development of meanings in the way that the Theme choices unfold in the text. This, they state, has a significant impact on the quality of the writing and it is one of the prominent reasons why papers can be graded as poor even if the teacher grading the piece is not aware of the concept of Theme. Hawes and Thomas (2012) investigated students' deployment of 'it-Subject' in Theme position for anaphoric reference as dummy subject in cleft sentences. These authors reported that comprehension is affected if too much information is encapsulated in the subject pronoun 'it'. Other research on Theme use has found that learners fail to correctly construct circumstantial Adjuncts in Theme position (e.g. Don & Sriniwass, 2017) or that overuse of circumstantial Adjuncts in Theme position produces an overly emphatic discourse (e.g. Green et al., 2000). Moreover, studies (e.g. He, 2020) have demonstrated that more successful writers employ more information-rich Themes in the form of nominal construction.

Despite a presence of the analysis of Theme use in successful student writing in the literature, as both Bonhnacker (2010) and Jing (2015) also point out, very few studies present how teaching materials are informed by Theme analysis to improve students' academic writing. In her comprehensive literature review, Jing (2015) states that 'a very limited number of studies have attempted to investigate with empirical evidence how instruction in Theme can enhance English learner writing' (p. 75). What does exist focuses explicitly on coherence. Jing (2015) and Yang (2008) present how they trained students to analyse Theme-Rheme patterning in texts based on Danes' (1974) proposal. Thompson (2013) explores teaching Theme's 'encapsulation' function and how that facilitates retrospective and prospective endophoric reference. That is, it helps students to work on summing up meanings from preceding clauses to carry content forward to following clauses.

To the authors knowledge, no research has focused on reporting the teaching of Theme choice for attribution in literature reviews to proficient but inexperienced undergraduate writers. The research emerged from the reading of students' writing. It was observed from preliminary investigations that students lacked a range of linguistic resources for attribution construed through Theme choice in the literature review section of their IMRD research papers. Their Themes were very much information fronted, with very little employment of

circumstantial Adjuncts or VTHAT clauses as Theme to provide extra information about research or views on the research based on choice of reporting verb, e.g. 'claim' versus 'demonstrate'. Therefore, an intervention was conceived as part of an action research project. In the next section, the context of the study is explained.

3   Data collection

The research was conducted over one semester of 13 weeks during the academic year (AY) 2019-2020 (August to December) following an action research cycle defined as 'a spiral of steps, each of which is composed of a circle of planning, action and fact-finding about the result of the action' (Lewin, 1948, p. 206).

Performing action research is similar to conducting an experiment because it focuses on hypothesis forming based on observations followed by testing and then evaluating and reporting the outcomes of the tests (Chandler & Torbert, 2003). It involves a systematic process of planning, action, and reflection on action or 'self-correcting investigative process' (Angrosino & Mayes de Perez, 2000) because often the researcher sees in hindsight that different actions could have been taken and so seeks to make amends retrospectively.

The participants in this study were 60 second year students, 15 in four classes, from multiple faculties, including science, engineering, business, law, mathematics, accountancy, arts and social sciences (e.g. sociology, economics, and history). Students on the module are primarily Singaporean Chinese but there are students from other ethnic backgrounds in Singapore such as Singaporean Malay and Singaporean Indian. There are also Korean, Japanese, Indonesian, Malaysian and Chinese scholars. The sample is, therefore, diverse with a wide range of academic needs in English. Most students in Singapore function with English as a first language, having been exposed to English as a medium of instruction in primary and secondary schools. However, as undergraduates, they lack experience in academic research and writing. Students from other nations, such as Korea, may be at IELTS level 6 and require more language support.

For the module, students are required to read 12 academic journal papers from the sociology of sport over 3 weeks, which acts as the reading corpus. Journals used are indexed and internationally peer-reviewed: *Communication and Sport, The European Journal for Sport and Society (EJSS), The European Physical Education Review, The International Journal of Sport and Society, The International Review for the Sociology of Sport (IRSS), The Journal of Sport and Social Issues (JSSI), Leisure Studies, Quest, The Sociology of Sport Journal,* and *Sport in Society.* The papers explore gender, race, class, age, and disability issues as well as other foci such as identity construction in fandom, character building through sport, and dropout from sport due to other commitments or ineffective coaching. Students are required to conduct research for a 2200-word IMRD paper on a subject of their choice that they have to produce at the end of the module.

The research began when students' draft literature reviews (generally 250-300 words in length) were examined. Student texts demonstrated that they were poorly equipped to make the very difficult and subtle meaning making requirements of attribution. Initial observations of students' literature review texts revealed an overuse of reference to sources in parenthesis at the end of the proposition: 'Skiing as an extreme sport increases resilience' (Hetland et al., 2018). Using NVivo 12, a series of word frequency analyses and text searches were conducted for Themes employed for attribution in six of the literature reviews of the module's reading corpus of academic journal research articles. The same searches were then carried out on the 60 students' literature review texts. Based on differences of usage from these two corpora, a pedagogical intervention in the form of a text deconstruction was

prepared. This idea was influenced by Christie and Dreyfus' (2007) suggestion that deconstructing texts using a genre-based approach is an effective pedagogical method. This intervention was then followed by post-intervention analyses of students' literature review sections to observe its impacts. The action research process is explained in diagrammatical form below in Figure 1.

4 Findings

4.1 Journal article corpus (module reading list)

As the students were required to write a research paper within the field of the sociology of sport, it was decided that the corpus should also be drawn from that subject field. As Halliday and Matthiessen (2013) point out, academic language production is field-related. Each field represents a certain register, which differs lexicogrammatically. Using a corpus of readings from the sociology of sport would make the grammar instruction more authentic as the students would be producing their own sociology of sport research papers.

The corpus of literature reviews from the six IMRD academic journal research articles in the sociology of sport comprised 14,777 words. An analysis of extended Themes in the literature reviews was conducted. To do this, word frequency counts of circumstantial Adjuncts in the form of common prepositions such as 'in', 'at', 'for', 'within' and 'like' as well as other common adverbials such as 'according to…', and 'regarding' were first conducted. Then, text mining for other examples of Theme in literature reviews for attribution occurred to confirm that all examples had been identified. The circumstantial Adjuncts employed as extended Themes for attribution in the corpus are provided in Table 4. All of these are followed by nominal groups in the academic reading texts. The most common followed the preposition 'in' such as 'In a study of unorganized and spontaneous schoolyard soccer with 9-12-year-old children, Jonasson (2010) observed overt signs of male domination' (Larneby, 2016, pp. 1203-1204).

Stage 1

- Analysis of the literature review sections of six IMRD journal articles constituting the module's reading corpus
- Analysis of the literature review sections of the students' first drafts

Stage 2

- Plan teaching activities on Theme use for students' literature reviews based on corpus evaluations
- Text deconstruction in class using an authentic example student text example

Stage 3

- Analysis of the literature review sections of the students' second drafts
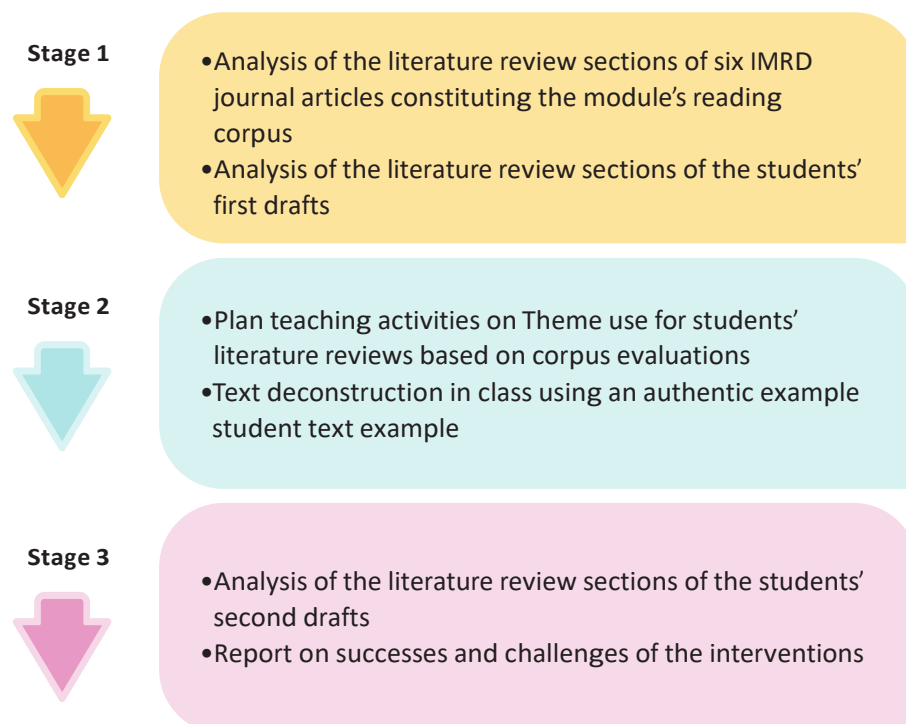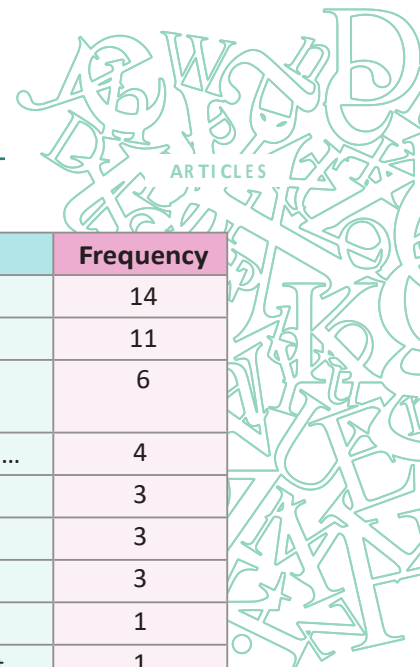- Report on successes and challenges of the interventions

Figure 1: Action plan for research and pedagogy

Circumstantial Adjunct	Frequency
In + noun, e.g. In a study of'/In her study on/	14
According to + author	11
As + verb + by + author, e.g. as suggested/ identified/explained/ stressed by … (author),	6
Through + noun, e.g. Through analysis of … , (author) concludes …	4
Like/unlike + noun, e.g. (Un)like + author,	3
Within + noun, e.g. Within this field of study,	3
Regardless of + noun, e.g. Regardless of these findings,	3
Due to + noun, e.g. Due to the rarity of these findings,	1
In addition to + noun, e.g. In addition to fear, (author) found that …	1
Apart from + noun, e.g. Apart from these findings,	1

Table 4: Circumstantial Adjunct as extended Themes from the literature reviews of the module's reading corpus

An analysis of the projecting clauses for reporting research in the literature review was also conducted through text mining of the journal articles. Word frequency counts were also produced (see Table 5).

Mental/verbal process	Frequency
argue	10
suggest	9
defend	3
discuss	3
states	3
observe	3
show	3
acknowledge	2
emphasise	2
explains	2
identify	2
assert	2
claim	2
noted	2
demonstrate	2
remark	2
conclude	2
propose	2
report	2
agree	1
establish	1
highlight	1
maintain	1

Table 5: Mental/verbal processes as extended Themes from the literature reviews of the module's reading corpus

4.2 Student corpus (Literature review first drafts)

The next stage in the pre-intervention preparation was to analyse the first drafts of students' literature reviews to compare these with the module reading corpus. The corpus from the students' texts was 15,949 words. The results of analysing the students' drafts for circumstantial adjuncts and mental/verbal processes are presented in Tables 6 and 7, respectively.

Circumstantial Adjunct	Frequency
According to + noun, e.g. According to researchers,	4
Through + noun, e.g. Through these studies, (author) concludes …	2
Apart from + noun, e.g. apart from this study,	1
As + verb + by + author, e.g. as suggested/ by … (author),	1
With + noun, e.g. With Habitus, Bourdieu argues that …	1
In accordance with, e.g. In accordance with past research,	1

Table 6: Circumstantial Adjuncts as extended Themes for reporting research from the first draft of students' literature reviews

Mental/verbal process	Frequency
conclude	5
reveal	4
posit	4
find	3
claim	2
propound	2
note	2
highlight	1
identify	1
believe	1
observe	1
acknowledge	1
argue	1
hypothesise	1
mention	1
postulate	1
show	1

Table 7: Mental/verbal processes as extended Themes from the first draft of students' literature reviews

It can be seen from both sets of literature review data that there was a substantial difference in the use of circumstantial Adjuncts as part of extended Theme for attribution. There were only six types of circumstantial Adjuncts to introduce sources compared to the number found in the academic journal literature reviews (n=10). More significantly, these occurred only ten compared to 47 times in the journal texts. Students rarely used these resources.
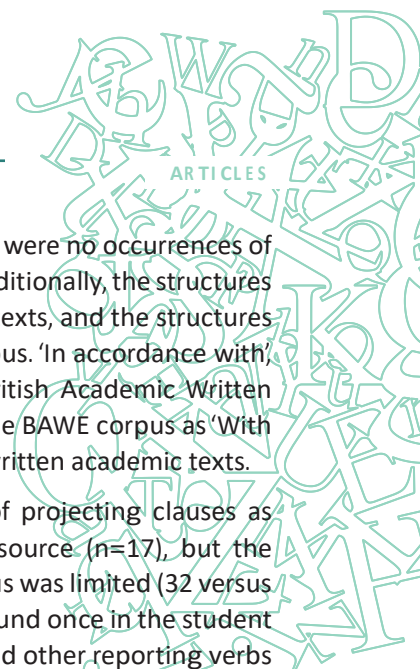
'According to' was high frequency in both corpora. In contrast, there were no occurrences of 'in + noun', e.g. 'In a study of/In their study on', in the student texts. Additionally, the structures 'With + noun' and 'In accordance with' only occurred in the student texts, and the structures 'Within + noun' and 'In addition to' only occurred in the journal corpus. 'In accordance with', e.g. 'in accordance with research conducted', was found in the British Academic Written English Corpus (BAWE). Moreover, 'With + noun' was also found in the BAWE corpus as 'With research carried out by …'. Therefore, these adjuncts are present in written academic texts.

There were also considerable differences in the corpus analysis of projecting clauses as Theme with mental/verbal processes. Students employed this resource (n=17), but the frequency of processes used compared to the models from the corpus was limited (32 versus 62 times). 'Suggest' was not used by students and 'argue' was only found once in the student corpus. Similarly, students used mental/verbal verbs 'reveal' (n=4) and other reporting verbs such as 'believe' (n=1) and 'mention' (n=1), which were not present in the model texts. However, these mental or verbal processes are not uncommon in academic writing. Taşçi and Oztürk (2021) found that the topmost frequent verbs in their corpus of PhD theses, written by both natives and non-natives, included 'reveal' as well as 'believe' for projecting clauses. Moreover, "As mentioned by" was present in the BAWE corpus.

With further in-depth investigation of individual student texts, it was discovered that the lack of extended Themes is characteristic of an over-use of references to sources at the end of a clause complex in parenthesis as in the example 'Skiing as an extreme sport increases resilience (Hetland et al., 2018)'. Although this kind of information-fronted language use is common in the published literature reviews, author-fronted clauses are also common. In this case, it would be possible to rewrite adding information, for example regarding the participants of the research: 'In Hetland et al.'s (2018) research on youth participants aged 18 to 25, skiing as an extreme sport …'.

4.3 Text deconstruction

A text from a student in a prior cohort was used for the pedagogical intervention. This text was selected because the tutor did not want to potentially cause embarrassment for a student in the current classes as the text was used as an example of a less effective text. Providing an anonymous text from a student two years prior to the course would cause no affective issues. Consent from the student as well as permission from the university review board to use the data were both given. The text was projected on the white board. Themes were underlined for the teacher presentation as shown:

Past research on extreme sports overemphasize risk-taking and that participants seek thrills (Celsi, 1993; Rosenbloom, 2003; Immonen et al. 2017). Emerging research indicates that extreme sports participation could bring profound transformations (Holmbom et al., 2017; Immonen et al. 2018). Skiing as an extreme sport increases resilience (Hetland et al., 2018). Freeriding fulfils the need for autonomy (Frühauf et al., 2017). However, little or no research in the field looks at extreme sport for confidence-building. My research paper aims to demonstrate this potential benefit from the extreme sport of bungee jumping.

Students were asked to suggest how the text might be rewritten to provide more variety in referencing research. The most common response was to use the authors in Theme position: 'Celsi (1993), Rosenbloom (2003) and Immonen et al. (2017) have researched extreme sports that overemphasize risk-taking and thrill-seeking' in addition to 'Hetland et al. (2018) and Immonen et al. (2018) explored skiing as an extreme sport that increases resilience.' None of the responses proposed circumstantial elements or projecting clauses. Students' awareness was then raised about other linguistic resources that could be employed to provide additional information such as opinion about the research and make logical connections between clauses. It was pointed out that the text follows a simple linear Thematic pattern with the Subjects as 'Past research', 'emerging research', 'skiing', 'freeriding', 'little or no research'.

Students were told that rather than write 'Skiing as an extreme sport increases resilience (Hetland et al., 2018)', it is possible to introduce the study in the following way: 'In a study on Skiing as an extreme sport, Hetland et al. (2018) suggest that …'. In this case, 'suggest' portrays the writers' distance from these research findings. An extended Theme might then continue to be applied to link to other studies sharing as in the following: 'Moreover, in their analysis of freeriding in the Alps, Frühauf et al. (2017) found that …' . In this case, the prepositional phrase 'In their analysis of freeriding in the Alps' enables the writer to pick up on the idea of 'Skiing as an extreme sport'. 'Freeriding' refers to snowboarding or skiing performed on natural, un-groomed terrain, without a set course, goals, or rules. It is considered an extreme version of skiing. It also gives the author opportunity to add extra meaning to the clause. 'Freeriding in the Alps fulfils the need for autonomy (Frühauf et al., 2017)' would give a very different meaning about the activity. In the first example, the study takes place in the Alps, but the findings might relate to other geographical locations. In the second example, the findings are solely connected to the freeriding in the Alps specifically. Students were then told that these types of Adjuncts are very common in literature reviews but rarely used in the written drafts of their literature reviews.

Following this text presentation, the student in-class task was to use the Word or PDF search tool to explore the journal articles making up the module's twelve readings. Students were asked to identify similar examples of extended Themes in the literature review sections of these papers and to highlight them. Several examples shared by students were constructed with 'in', for example, 'in the same paper', 'in a later article'. The results from the corpus constructions of six of the module reading corpus in Tables 4 and 5 as well as the corpus results from students' own literature review drafts (Tables 6 and 7) were then shared in class. It was reiterated that, in their own literature review drafts, very few extended Theme resources were used for attribution. Students were also encouraged to continue analysing journal articles and to seek to expand on their own linguistic resources for attribution as they read research papers for their own research projects.

4.4 Student corpus (literature review second drafts)

The second student corpus of draft literature reviews was 15,334 words. Table 8 shows the range and frequency of circumstantial Adjuncts and Table 9 the second of reporting verbs used in projecting clauses. After that, an example student text from a group of students whose first drafts predominantly included information-fronted attribution is provided.
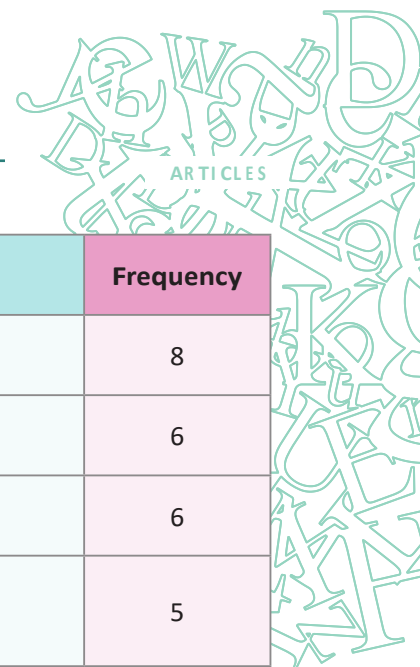
Circumstantial Adjunct	Frequency
In a/the/ their + noun, e.g. In the study of, author (…) examines …	8
According to + (author), e.g. According to Messner (2010),	6
With the + verb –ing/-ed, e.g. With the growing research on …	6
As + verb + in/by + noun, e.g. As argued in + author (…); As discovered by + author (…)	5
Due to + noun, e.g. Due to + ethical issues concerning data collection, little attention is given to …	3
With + noun, e.g. With a lack of local research in this area, this paper aims to …	3
With regard to + noun (research field), e.g. With regard to (these findings),	3
Through + noun, e.g. Through their research	2
Similarly to + noun, e.g. Similarly to my research,	2
Using + noun, e.g. Using Dickwolves as a case study,	2
Within + noun, e.g. Within the context of research on … ,	2
In addition to + noun, e.g. In addition to these conclusions, the authors + verb	2
For + noun, e.g. For (author), (…) can lead to …	2
Through + noun, e.g. Through their research, author discovers that …	2
Apart from + noun, e.g. Apart from these findings,	1
Contextualizing + noun, e.g. Contextualizing these findings in the local context,	1
In accordance with + noun, e.g. In accordance with a similar purpose, the author (…) states that….	1
As a result of + noun, e.g. As a result of … , author (…) has concluded that …	1

Table 8: Circumstantial Adjuncts as extended Themes from the second draft of students' literature reviews

Mental/verbal process	Frequency
show	10
suggest	10
conclude	5
state	4
find	4
argue	4
note	4
propose	3
reveal	2
assert	2
claim	2
posit	2
observe	2
report	2
contend	2
indicate	2
postulate	2
propound	2
assert	2
argue in response	1
fail to acknowledge	1
agree	1
acknowledge	1
concede	1
deduce	1
hypothesise	1
maintain	1
support the claim that	1
identify	1
propose	1
seek to provide	1

Table 9: Mental/verbal processes as extended Themes from the second draft of students' literature reviews

4.5 Individual student text

In their studies of mixed-gender netball, Tagg (2018) and Treagus (2005) assert that research mainly centres on male participation in a 'feminized' sport leaving a dearth of female voice. This lack of feminine voice seems to suggest that 'women' are secondary in the sport, and that netball is not comparable to 'male models of sport' (Tagg 2018, p. 1401). Nevertheless, the success of mixed netball also lies in its resonance with female preferred physical activity (Treagus, 2005). Female players value the mixed netball precisely because it is feminine (Tagg, 2018; Treagus, 2005). With the lack of female perspectives in mixed gender netball research, Tagg (2018) and Treagus (2005) seek to provide a more complete image of women's voices.
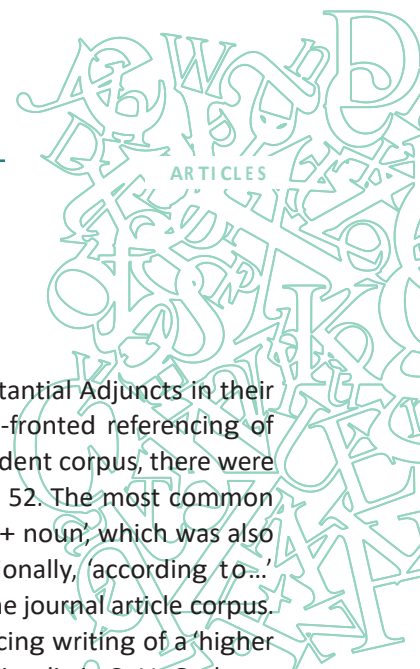
5 Discussion

5.1 Corpus analyses

Students employed a wider range and higher frequency of circumstantial Adjuncts in their second drafts providing evidence that there was less information-fronted referencing of sources at the end of a clause complex in parenthesis. In the first student corpus, there were only ten circumstantial adjuncts whereas in the second there were 52. The most common usage of circumstantial Adjunct had not changed to 'In a/the/ their + noun', which was also high frequency in the corpus from the academic journals. Additionally, 'according to...' appeared more frequently than before the intervention, again like the journal article corpus. From these findings, it can be concluded that students were producing writing of a 'higher syntactic complexity' (Ortega, 2015). Rather than using relatively simplistic S+V+O clause structures such as 'Hetland et al. (2018) explored skiing as an extreme sport', their texts included more complex clauses including subordinate syntactic units as in 'In their study of 100 Italian male athletes, Robazza, et al. (2006) found that contact sports may enable competitive anger symptoms (p. 507)'.

In comparison with other studies (e.g. Don & Sriniwass, 2017; Green et al., 2000), students did not tend to incorrectly construct circumstantial Adjuncts in Theme position nor did they seem to overuse circumstantial Adjuncts in Theme position. Otherwise, there would be significantly more than 52 examples in the corpus of 15, 334 words, which is approximately 1 every 300 words. Moreover, the post-intervention student text related to mixed-gender netball, extracted from a group whose writing did not include circumstantial Adjuncts or author-fronted attribution, exemplifies careful use for cataphoric and anaphoric referencing. This was also a characteristic of other student texts.

Additionally, students' projecting clauses were made up of a wider range of reporting verbs than prior to the intervention: 30 rather than 17 in the preliminary corpus of this class. These findings can be seen to share characteristics of other corpora studies (e.g. Biber et al., 1999; Taşçi & Oztürk, 2021). Biber et al. (1999) also found that 'suggest' and 'show' were the most used reporting verbs of VTHAT clauses in their academic corpus for the Longman grammar of spoken and written English. Moreover, Taşçi and Oztürk (2021) found that the topmost frequent verbs in their corpus of PhD theses also included 'find', 'show', 'suggest', 'conclude', 'claim', 'argue', 'note', 'reveal, 'state', 'indicate', 'report'. The second student corpus shared similarities with Taşçi and Oztürk's (2021) corpus. However, in contrast to their research, 'believe', 'say', 'ensure', 'feel' and 'demonstrate' were not present in the student corpus of this study. 'Demonstrate' did appear in the journal article corpus. However, neither 'say' nor 'feel' appeared in either the journal or student corpus. These two verbs were also present in the BAWE corpus with multiple instances used for attribution.

5.2 Individual student text analysis

In the student example provided in section 4.2, Circumstantial Adjuncts and projecting clauses as extended Theme choices provide extra information about the studies discussed as well as help to provide effective cohesion. The first extended Theme 'In their studies of mixed-gender netball, Tagg (2018) and Treagus (2005) assert that...' enables the student to contextualise the research first and introduce the two authors of the paragraph before presenting the main focus of the clause: 'research mainly centres on male participation in a "feminized" sport leaving a dearth of female voice'. If the clause were as presented below, its meaning would lack clarity: 'Research on mixed-gender netball, mainly centres on male participation in a "feminized" sport leaving a dearth of female voice (Tagg, 2018 & Treagus, 2005)'. In this example, it is not clear if Tagg and Treagus are cited because they make this

claim or because their research mainly centres on male participation in netball. This subtle ambiguity helps to represent the difficulty in writing a literature review using attribution resources and the importance of circumstantial Adjuncts. It was possible to convey to students that ambiguity exists like this with the example text deconstruction for the intervention. Additionally, the use of 'assert that' conveys a relatively strong writer alignment, again a possible teaching point in class with the example. In the post-intervention text, the student also employs another extended Theme: 'With the lack of female perspectives in research, Tagg (2018) and Treagus (2005)'. This circumstantial Adjunct provides extra information about the research in the field and simultaneously references anaphorically to the first and second clauses as well as functioning to encapsulate the gist of what has already been conveyed summing up the two authors' main points from their research. There is also both linear and zigzag Theme-Rheme patterning in the second student text, providing a more complex cohesion which is more information-rich than the simpler linear formation used in the first student example.

6 Conclusion

This paper has provided an overview of interventions explicitly teaching the use of Theme for attribution in a literature review of an IMRD paper in the sociology of sport. Through examination of students' draft texts, it was found that one of the main teaching concerns with most of the students was their limited use of Theme for attribution in their literature review sections. Corpus analyses of the modules' readings of journal articles as well as students' first draft literature reviews were conducted. It was observed that there were clear distinctions between these sets of texts, particularly regarding information and author-fronted attribution as well as circumstantial Adjunct employment to provide extra information related to a study. With these findings, a text deconstruction was conducted in class to raise students' awareness of the linguistic choices possible. In the second student corpus, it was observed that real learning had occurred as a richer linguistic use of extended Theme choice was present, and these Themes helped the students to provide experiential and interpersonal meanings as well as to produce an effectively cohesive text (textual meanings).

The use of metalanguage and the amount of focus on grammatical subject matter proves to be a challenge for language teachers of English for academic purposes. There is much debate related to the question as to whether metalanguage should be reduced for student learning. Quinn (2004) and Basturkmen et al. (2002) conclude that metalanguage is essential as it plays 'a role in making linguistic forms more explicit and thus noticeable' (Basturkmen et al., 2002, p. 11) so that students can 'incorporate them into their production' (ibid). In this research, the students' writing required input in several areas, of which attribution was only one. Thus, time was limited for the pedagogy. Moreover, the multi-disciplinary and multilingual context of the study meant that too much of a focus on metalanguage in terms of what represents unmarked and marked Themes might have been negatively received. Consequently, there was a carefully measured input structure for metalanguage. The version of extended Theme from Berry (1995), Davies (1997), Forey (2002), and more recently by Bowen and Thomas (2020) that treats everything up to and including the Subject was selected for pedagogical purposes in this study for its functionality.

Engaging students in a text construction followed by text mining of research articles in class helped to facilitate more independent noticing later on. The text deconstruction in the classroom was a sound strategy for focusing on linguistic features (Christie & Dreyfus, 2007). In this way, the knowledge was explicitly made visible – a key in effective teaching (Maton,
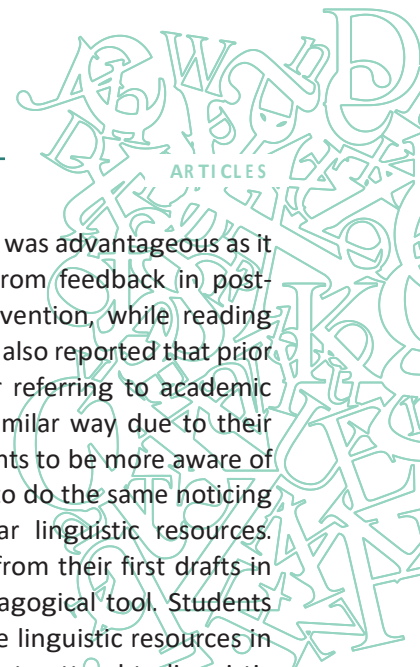
2014). Moreover, using a less successful text from a previous student was advantageous as it enabled students to engage at an appropriate threshold level. From feedback in post-intervention consultations, students reported that after the intervention, while reading journal articles, they were noticing the language of attribution. They also reported that prior to the classroom interventions, they knew the language used for referring to academic sources but that they were not employing these resources in a similar way due to their inexperience in the IMRD structure. The intervention enabled students to be more aware of these resources and to notice them, and this encouraged students to do the same noticing in their own reading of research articles and to employ similar linguistic resources. Additionally, being able to present to students the corpus results from their first drafts in comparison to some of the module readings was a powerful pedagogical tool. Students reported that this had motivated them to implement more of these linguistic resources in their own writing. When students are guided by a significant other to attend to linguistic features in this way, they are helped in the shift from input to intake and begin to notice structures independently more readily (Christie & Dreyfus, 2007).

One limitation of the research is the small corpus size. Only six of the twelve academic journal papers were used. Clearly, a more extensive corpus would provide more generalisable findings about the most frequently used linguistic resources in this field. It is the author's intention to extend the journal article corpus as an ongoing project as different academic papers are used for the module. Despite the size of the sample corpus, common effective language patterns for attribution were discernible in these texts. Other sources were also used to verify reporting verbs for projecting clauses (BAWE corpus; Biber et al., 1999; Taşçi & Oztürk, 2021).

Attribution constitutes a crucial element of academic meaning-making in writing about research. However, students can be poorly equipped in these very difficult and subtle meaning making requirements. This was initially shown in their tendency to simply attribute in information-prominent citation style using linear Thematic progression. By expanding their repertoire, students gained access to a range of resources enabling them to craft their literature reviews to better create a multi-voiced, information-rich text, to support stance more effectively and develop the textual cohesion of their literature reviews considerably. These are skills that remain challenging even for highly experienced academic writers, so making these resources visible to our undergraduate students early on could be empowering for their future research writing requirements. It is hoped that this study on the use of extended Theme for attribution in IMRD literature reviews might enthuse other academic tutors in higher education to explore this important pedagogical field.

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