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## Critical review of literature: The case of the news and views genre

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## 1. Introduction

Graduate science students need to develop skills in evaluating innovative science practice, applying critical and analytical skills by identifying gaps in the existing literature and communicating effectively with academic and industry audiences.<sup>2</sup> The 'news and views' genre, is widely used by science lecturers as an assessment task to foster these skills (e.g., University of Technology Sydney; The Australian National University; University of Michigan; University of Notre Dame, USA).<sup>3</sup> 'News and views' is a short article type (approximately 1000 words long) published in science journals. It focuses on a single research article (occasionally two), usually in the same journal as the News and views article, which the editors have selected as significant and worthy of focus. News and views articles thus serve to announce important advances by summarising a newly

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published journal article (news), and in the same article providing a short review of the article (views). Writers of 'news and views' articles are usually senior researchers in the field invited to contribute the news and views article by the editors, while the target reader is an informed disciplinary insider but not necessarily a specialist in the field. Although news and views articles have some similarities with research articles (e.g., claiming centrality of the topic, making topic generalisations), in contrast to research article authors, writers of news and views articles are not the author of the study and thus have a different relationship with the audience and with the subject matter. This leads us to expect differences in rhetorical moves and in use of evaluative and persuasive language in news and views articles compared with research articles.

Like review articles, news and views articles are written by experienced researchers, and they therefore provide an exemplar for graduate student writers who are learning to review and critique literature. Critical evaluation is an essential element in academic writing, particularly for graduate students. Yet expressing evaluative judgements about literature can be difficult for students, as publication gives an article status which students can find hard to challenge. Therefore, unpacking the rhetorical and lexico-grammatical resources used in critical evaluation can be useful in tertiary education for teaching critical review of literature. This article presents a way to teach the critical review using the news and views genre as an exemplar. We base our suggestions on two kinds of analysis of the language in news and views articles. Firstly, we present an analysis of the genre features of news and views articles. Secondly, we present the results of an analysis of lexico-grammatical resources for expressing stance, which is useful for students in fine-tuning the critical resources in creating an appropriate disciplinary persona and appropriate relationship with their reader. We include in this analysis a comparison with the resources used to express stance in research articles, which allows us to comment on the usefulness of the news and views genre for developing the ability to write other academic genres. Finally, we discuss the study's applications for the teaching of critical review of literature to graduate students.

## 2. Analytical frameworks

This section describes the two analytical frameworks we use in our analyses of news and views articles (henceforth N&V): genre analysis and analysis of stance and engagement features.

### 2.1. Genre analysis

A genre is a set of texts that share a communicative function (Swales, 1990), with similarities in themes and ideas. Miller (1984) characterises genres as recurring forms which are persuasive in that, by repeated use, they have become what is expected by a community in response to a particular purpose. The purpose of the N&V genre is briefly to report on and critique new research, providing an assessment of the value of a new study. In contrast, the purpose of research articles is to communicate new research findings.

Swales's (1990) rhetorical move analysis has been influential for analysing and teaching genre. Move analysis involves identifying the typical recurring meanings, typical persuasive devices, and typical organisation of a genre. Texts consist of a series of moves, with moves being functional units in a text which work together to fulfil the overall communicative purpose of the genre (Biber et al. p.24). A genre analysis thus provides insights into the ways that a genre typically conveys rhetorical meaning, making genre analysis a valuable tool for writing pedagogy.

The genre most studied using this framework is the research article (hereafter RA). Because N&V articles describe and evaluate RAs, we briefly consider here what studies have found about rhetorical meaning in RAs. RA Introduction sections were analysed in the pioneering study by Swales (1990), who proposed three moves. The first involves *establishing territory* (using strategies like claiming importance and reviewing previous research). Secondly, *establishing a niche* is achieved by indicating a gap in existing literature or raising a question. Thirdly, *occupying the niche*, is achieved using strategies like outlining purpose. RA Abstracts were found by Hyland (2004) to have five moves (*introduction, purpose, methods, results, conclusion*). Cotos, Huffman, and Link (2017) proposed three moves in RA Methods sections including *contextualising methods, describing the study* and *establishing credibility*. In RA Discussion sections, Basturkmen (2012) found four moves including *background information and summarising, reporting and commenting on results*. This brief overview suggests the importance of moves in convincing RA readers of the necessity for and credibility of the author's study. This can be seen in the way that the Abstract summarises the article for readers, the Introduction situates the study in the field and points to the need for the present study as indicated by gaps in the literature, and the Method section seeks to convince readers of the reliability of the authors' methods.

Studies of review genres like book reviews (Motta-Roth, 1998), doctoral literature reviews (Kwan, 2006) and annotated bibliographies (Starks & Lewis, 2003) have also analysed move structure. Book reviews particularly have received attention from genre analysts. Motta-Roth (1998) identified four moves in book reviews: introducing the book, outlining the book, providing a focused evaluation of the book, and recommending/disqualifying the book. Similarly, Diani (2009) found book reviews to have three sections including Introduction, Critique and Conclusion. This suggests similarities with N&V articles which also have Introduction (News) and Critique (Critique). But as mentioned above, N&V articles function to announce and critique recent advances in science disciplines. This is different from a book review, which functions to review a new book and introduce it to the audience. It is also different from other review genres such as systematic reviews which functions to survey, synthesise and assess recent literature in a field. It also differs from literature reviews and annotated bibliographies, which seek to identify a research gap or provide evidence for a present study, usually involving a thorough literature search and

critique of studies found. Such differences in the intended purposes of these review genres make it interesting to investigate how authors organise the move structure and use language in these genres. N&V articles constitute a relatively new genre and have not been studied by genre analysts. The present study addresses this gap.

## 2.2. Stance and engagement

Evaluative and persuasive language, a further category of rhetorical resources, has also received attention (e.g. Hyland & Diani, 2009; Zou & Hyland, 2020). Expressing a stance towards their readers and their subject matter, evaluating the information they are writing about, and engaging with readers are ways that writers convince their readers of arguments. Stance is the way that writers express their 'judgements, opinions and commitments' (Hyland, 2005a, p. 176), while engagement describes how writers align with disciplinary values and connect with readers, guiding them in interpreting the text.

Hyland (2005a) discusses four sets of linguistic resources that writers use to express stance: hedges, boosters, attitude markers and self-mention. Hedges include modal verbs and other linguistic resources that indicate the extent of the writer's commitment to the proposition such as "possible" and "probably". Boosters, such as "show", "demonstrate", and "definitely" are used to emphasise writer certainty. Attitude markers, such as "important", "unfortunately", etc., reflect the writer's affective judgement of the topic. Self-mention includes writers' reference to themselves ("I", "we", etc.). Linguistic resources expressing engagement include reader pronouns ("you"), directives (e.g., "see Table 3"), and questions. Of these, Bruce (2016) found that hedges and attitude markers were particularly important resources in constructing critical stance.

Hyland (2005b) has consolidated his work on stance and engagement within his metadiscourse framework. A defining feature of metadiscourse, including stance and engagement, is that it is distinguished from propositional meaning, i.e., meaning in the real world beyond the text. The focus of metadiscourse is within the text; it signals "the writer's communicative intent in presenting propositional matter" (Hyland, 2005b, p. 23), and constitutes interaction between the writer and reader. Hyland's metadiscourse framework lists words commonly used in expressing stance and engagement. It is important, however, that instances of these words are analysed in context to see what role they are playing: whether a metadiscoursal or a propositional meaning is being used depends on how instances relate to the surrounding text.

The quantitative nature of Hyland's metadiscourse framework contributes to some limitations. For example, in a metadiscourse analysis, a wide range of resources are quantified and considered together, without taking account of the relative strength of individual markers. For example, boosters such as 'definitely', 'doubtless' and 'established' are stronger and more definite than, for example, more neutral boosters such as 'believe', 'think' or 'find'. Also, the same booster in different contexts can create a stronger or weaker impression, depending on the topic of the surrounding context. Taking the booster "shows" as an example, the relatively small research detail in "the confinement-with-field-processed sample shows only a single grain" creates a weaker impression than the main research finding of a paper that "now research shows that investments in flood protection are globally beneficial". Nevertheless, although it cannot provide the nuance that more qualitative analysis focusing on a narrower category could do, the strength of this framework is that it provides a broad picture of the kinds of resources that are used to persuade readers of the writers' arguments in a particular genre. This broad analysis of resources can be very valuable for students.

As noted above, RAs and review genres like book reviews are of relevance to the present study, because N&V articles review RAs. Hyland's (1998) study of stance and engagement features in RAs found hedges to be higher frequency than boosters and attitude markers, reflecting the need of RA writers to avoid exaggerated claims that may be challenged by readers. RA writers need to convince readers of the objectivity of the research, and the credibility of its methods. For example, a sense of objectivity is promoted through impersonal language (Harwood, 2005).

Studies of stance and engagement in book reviews have yielded interesting findings. Studies by Shaw (2009) and Giannoni (2009) reported that positive evaluation predominates in book reviews. Shaw (2009) found that positive evaluations were more likely to be boosted than hedged and negative evaluations were more likely to be hedged than boosted. Tse and Hyland (2009) noted the relevance of the writers' status, finding that more senior reviewers were more willing to express criticism explicitly. This is relevant to the N&V genre, which is usually written by senior researchers.

Teaching rhetorical resources like moves and stance and engagement is effective in supporting students in writing a critical literature review (Bruce, 2014). Review genres, including literature reviews and critical reviews, are frequently used as assessment, as they give students experience in analysing and critiquing texts. Despite its use as an assessment task for graduate science students, the N&V genre has received no attention from genre analysts. In this article, therefore, we provide an analysis of both rhetorical moves in N&V articles and of the use of stance and engagement resources. We investigate the following research questions:

1. What rhetorical moves are used in news and views articles, and how can this inform the pedagogy of the critical review of literature?
2. What evaluative and persuasive language do news and views articles use, and how can this inform the pedagogy of the critical review?

### 3. Method

Although our focus in this article is the N&V genre, each N&V article critiques an RA. We therefore considered the stance and engagement markers both in N&V and in the RAs they describe, to compare use of evaluative language in N&V articles and RAs. Move analysis of the RAs was not undertaken, and we relied instead on prior analyses of the move structure of RAs.

#### 3.1. The corpora

Corpora of both N&V articles and RAs were collected. Because N&V articles appear widely in Nature-branded research journals, including *Nature*, *Nature Physics*, *Nature Medicine*, etc., we selected our data from the Nature database.<sup>4</sup> From these we randomly selected 15 N&V articles published between 2015 and 2019 in each of two biological sciences (biology, health science), and two physical sciences (earth and environmental science, physics). The two data sets contain 60 matched pairs of articles: the 60 N&V articles, which were drawn from a total of 24 Nature-branded journals, and the 60 RAs that each N&V article critiques. In general, the matched RA and N&V article were published in the same journal, but there were exceptions to this.

The 60 articles in the N&V corpus contain 66,785 words (Table 1) and the 60 RAs, 392,891 words. Figures, titles, legends, headers, footers and reference lists were excluded from the corpora.

#### 3.2. Development of the move structure

To develop the move structure of N&V articles, we drew initially on the moves in RAs and book reviews. The second author used the moves developed by Swales (1990), Kanoksilapatham (2005) and Motta-Roth (1998) to analyse seven N&V articles. The first author then independently analysed the same seven N&V articles. Comparison and negotiation of the differences in our analyses resulted in a revised N&V move structure. The authors then independently reanalysed the seven articles using the revised move structure. An interrater reliability analysis using the Kappa statistic was performed to determine consistency between the two raters [ $Kappa = 0.9650$  ( $p < .0001$ ), 95% CI (0.8662, 0.9439)]. This indicates very high agreement (Viera & Garrett, 2005). The first author then analysed the rest of the 53 articles using Nvivo 12 (2018). Table 2 below shows the developed move structure.

#### 3.3. Analysis of stance and engagement

Hyland's (2005b) interactional metadiscourse framework was used to analyse the stance and engagement features in both the N&V and the RA corpora. Wordsmith Tools (Scott, 2012) was used to find every instance of Hyland's interactional metadiscourse markers. Each marker was qualitatively examined and coded in context to ensure it functioned as metadiscourse. The frequency of the markers in the two data sets were calculated and compared.

## 4. Results and discussion

We report our move analysis of the N&V genre (Section 4.1), followed by our analysis of stance and engagement features in both N&V articles and the RAs which they describe (Section 4.2).

#### 4.1. Rhetorical moves in N&V articles

The six moves identified in N&V articles, together with their steps, are shown in Table 2. As Table 2 shows, as well as reporting on their associated RA (news) and evaluating the article (views), N&V articles also contain a very brief abstract (the strapline).

**Table 1**  
News and views and RA corpora.

Disciplines	Number of texts: N&V	Words: N&V	Number of texts: RA	Words: RA
Biological sciences	15	15, 950	15	116, 657
Earth and environmental sciences	15	16, 204	15	80, 505
Health sciences	15	20, 477	15	114, 443
Physical sciences	15	14, 154	15	81, 286
Total	60	66,785	60	392,891
Mean words per article		1113		6, 548

<sup>4</sup> [https://www.nature.com/search?order=relevance&article\\_type=news-and-views&date\\_range=last\\_5\\_years](https://www.nature.com/search?order=relevance&article_type=news-and-views&date_range=last_5_years).

**Table 2**

Moves and steps in news and views articles.

Move 1 Introducing associated RA in strapline
Move 1 Step 1: <i>Context and motivation</i>
Move 1 Step 2: <i>Purpose</i>
Move 1 Step 3: <i>Methods</i>
Move 1 Step 4: <i>Results</i>
Move 1 Step 5: <i>Implications</i>
<b>Move 2: Announcing the importance of the field</b>
Move 2 Step 1: <i>Claiming centrality of the topic</i>
Move 2 Step 2: <i>Making topic generalisations</i>
Move 2 Step 3: <i>Reviewing previous research</i>
<b>Move 3 Niche occupied by associated RA</b>
Move 3 Step 1: <i>Indicating a gap investigated by RA</i>
Move 3 Step 2: <i>Raising a question investigated by RA</i>
<b>Move 4 Describing the present study</b>
Move 4 Step 1: <i>Explicit mention of RA and its authors</i>
Move 4 Step 2: <i>Stating purpose(s) of RA</i>
Move 4 Step 3: <i>Describing procedures of RA</i>
Move 4 Step 4: <i>Presenting findings of RA</i>
Move 4 Step 5: <i>Presenting hypotheses of RA</i>
<b>Move 5: Evaluating the present study</b>
Move 5 Step 1: <i>Making claims/interpretations about the results of RA</i>
Move 5 Step 2: <i>Positively evaluating findings of RA</i>
Move 5 Step 3: <i>Negatively evaluating findings and noting limitations</i>
Move 5 Step 4: <i>Commenting on (un)expectedness of findings of RA</i>
<b>Move 6: Suggesting future research</b>
Move 6 Step 1: <i>Suggesting future research</i>
Move 6 Step 2: <i>Stating applications and implications of RA</i>

Move 1, **Introducing associated RA in strapline**<sup>4</sup>, highlights and promotes the new findings of the RA being reviewed. There were five possible steps, although these were not all used in the same N&V article, given the limited length of the straplines. Steps in this move included: *context and motivation*, *purpose*, *methods*, *results* and *implications*.

In Move 1 Step 1, *context and motivation*, the author introduces the background and motivation behind the associated RAs. This can be signalled by evaluative adverbs such as “fundamentally” and adjectives such as “major” (see Example 1 below).

1. A major transitional step in Earth's history was the conquest of land by plants, which fundamentally changed carbon cycling and elevated oxygen levels. (BSNV3)

Move 1 Step 2, *purpose*, introduces the purpose of the reviewed studies, usually expressed by infinitive clauses starting with *to* (Example 2).

2. To help piece together the tree of life (BSNV4)

Move 1 Step 3, *methods*, describes the research methods and experimental procedures of the RAs (Example 3).

3. Now, investigators have combined longitudinal sampling with metatranscriptomics and metagenomics in IBD. (HSNV6)

Move 1 Step 4, *results*, is an obligatory step appearing in 50 of the 60 N&V articles. Obligatory moves were operationalised in this study as those occurring in 80% or more articles. This step explains the key findings of the associated RA (Example 4). Phrases indicating research activity were common. For example: “shows”, “reveals”, “highlights”, “demonstrated”, “identified”, “detected”, and “provides evidence”.

4. Now research shows that investments in flood protection are globally beneficial, but have varied levels of benefit locally (ESNV6)

In Move 1 Step 5, *implications*, the author interprets the usefulness of the research findings in the field (Example 5).

5. These outliers might teach us something about sustainable coral-reef management (ESNV9)

The move structure of the strapline in N&V articles mirrors the move structure of abstracts in journal articles, namely, introduction, purpose, methods, results and conclusion (Hyland, 2004). However, the N&V strapline is much shorter than an RA abstract. Move 1, Step 4, *results*, was found to be the most frequent step in N&V straplines across all the four disciplines in

this article, while the most frequent step in a journal article abstract varies by discipline (Martin, 2003; Maswana, Kanamaru, & Tajino, 2015).

The body of a N&V article starts with Move 2, **Announcing the importance of the field**. Move 2 Step 1, *claiming centrality of the topic*, explains the importance of the field using evaluative lexis indicating importance, including adjectives such as “major” and “important” (Example 6).

6. The role of the enteric microbiota in the development of GVHD has been a major area of research in the transplantation field (BSNV8)

Move 2 Step 2, *making topic generalisations*, was obligatory in N&V articles. This step is found in all but one of the 60 articles. This step shows the link between the current research and established work in the field, also providing background knowledge useful for understanding the topic. Example 7 shows how an author sketches in the background of the field, indicating information about which there is “general consensus”.

7. There is a general consensus on several aspects of kimberlite formation. First, kimberlites must be extremely enriched in water and carbon dioxide to explain their violent eruption style [...] (ENSV12)

Move 2 Step 3 was also an obligatory step, appearing in 58 of the 60 N&V articles. Like Move 2 Step 2, it informs the reader about prior research findings about the topic under investigation; in Step 3, explicit reference is made to previous studies, while Step 2 makes no reference to prior studies. Referencing was usually through superscript numbering (Examples 8 and 9 but occasionally the names of the authors of RAs being referred to were explicitly included (Example 9).

8. These studies have found changes that include ‘greening’ trends, increased plant productivity<sup>2</sup> and earlier starts to the growing season.<sup>3</sup> (ESNV11)
9. A similar observation of a pseudohexagonal tilted columnar phase of somewhat smaller disc-shaped molecules was reported in the seminal work of Frank and Chandrasekhar<sup>5</sup> (PSNV14)

Move 2 is similar to the Establishing a territory move in Swales’s CARS model, and it has the same three steps: *claiming centrality of the topic*; *making topic generalisations*; *reviewing previous research*.

Move 3, **Niche occupied by associated RA**, is also found in Swales’s CARS model. It introduces a gap in the literature (Move 3 Step 1) or research questions investigated by associated RAs (Move 3 Step 2). These correspond to Move 2 Steps 1 b and 1 c in the CARS model. The gap can be signalled by adversative adverbials such as “however” (Example 10). Research questions are normally signalled by explicit mentioning of the word “question” (Example 11).

10. However, such data do not reveal whether more complex species are present, nor what chemistry prevails in the outer regions of the disk. (ESNV15)
11. The fundamental question here is what plant innovations are the basis for the transformation of filamentous haploid freshwater algae to land-dwelling complex plants. (BSNV3)

In Move 4, **Describing the present study**, the authors describe the research procedures and highlight key findings. *Explicit mention of RA and its authors* (Move 4 Step 1) is an obligatory step, found in all N&V articles. Examples 12 and 13 show how N&V articles introduce the authors of the reviewed RAs.

12. In this issue of Nature Medicine, Legoff et al.<sup>3</sup> (BSNV8)
13. Writing in Nature Geoscience, Benn and colleagues<sup>2</sup> (ESNV13)

Signalled by infinitive clauses as in Example 14, Move 4 Step 2 *states the purpose(s) of associated articles*.

14. To gain a deeper understanding of the broad emission mechanism of conventional CDs (PSNV6)

Move 4 Step 3, *describing procedures of RA*, is another obligatory step, appearing in all but one of the N&V articles. Action verbs and sequential adverbials like “after the addition” (Example 15) are employed to describe the procedures of the associated RA.

15. After the addition of Cys-SNO, Miki et al.<sup>5</sup> added AlZin to cells at different time points, using immunoaffinity enrichment to capture AlZin-labeled proteins before and after Zn<sup>2+</sup>-rich vesicle formation. (PSNV11)

<sup>5</sup> In this article we use bold font to indicate moves, and italics to indicate steps.



Move 4 Step 4, *presenting findings of RA*, was also obligatory. It highlights key research findings of reviewed articles, with authors using words such as “findings” (16) and “show”.

16. Their findings were clear: simulations with anthropogenic forcings can reproduce the observed record, whereas runs without anthropogenic forcings cannot. (ESNV11)

In Move 4 Step 5 the N&V authors *present hypotheses of RA*. Words such as “test” (Example 17) and “postulate” and are used to signal that hypotheses are being tested.

17. They test whether psychiatric conditions live on the boundary of incremental change in the human connectome. (HSNV5)

The presentation in Move 4 of an overview of purpose, procedures, findings and hypothesis of the associated RA reflects the review nature of N&V articles: they need to introduce the key components of the reviewed article (methods, findings, purpose, authors) before commenting on the article in the ‘views’. In this regard, the function of describing the present study is like the moves of introducing the book and outlining the book in book reviews (Motta-Roth, 1998). Further evidence of the review nature of N&V articles is that Move 4, Step 1 *Explicit mention of RA and its authors* appeared in all N&V articles in our corpus.

These examples of moves 1–4 presented above show that like introductions in Swales’ (1990) CARS model, the ‘news’ part of N&V articles starts by announcing the importance of the field, introducing the niche occupied and describing the present study. In contrast the views part in N&V articles shows similarities with Motta-Roth’s “focused evaluation of the book”. The ‘views’ part involves three moves: Move 5, **Evaluating the present study**, and Move 6, **Suggesting future research**. **Evaluating the present study** Move 5 Step 1, *making claims/interpretations about the results of RA*, is an obligatory step. This step introduces N&V authors’ own interpretations of reported research findings in reviewed articles. Words such as “indicates” and “show” as in Example 18 and also “suggests” are used.

18. These findings show that some genes are more sensitive than others to the amount of BATF–IRF4 complex and thereby connect TCR signal strength with the ability to control differential cell-fate ‘decisions’. The findings of Iwata et al. indicate that T cells are specifically programmed to respond to BATF–IRF4. (BSNV10)

Move 5 Step 2, also obligatory, involves the N&V author *evaluating the findings of RA*, by commenting on the achievements of reported studies. “Impressive achievement” in Example 19 indicates the author’s explicit expression of evaluative stance. Other evaluative lexis included “innovative”, “elegantly”, “exciting”, “successfully”, and “compelling”.

19. This is an impressive achievement. (BSNV11)

In Move 5 Step 3, the N&V writers *negatively evaluate findings and note any limitations*. This step was not obligatory, occurring in 39 of the 60 N&V articles, compared with positive evaluation in Move 5 Step 2, which appeared in 48 N&V articles. Move 5 Step 3 is often linked to Move 6 Step 1 *suggesting future research*. Negative sentence structure such as “is not” (Example 20), and evaluative lexis such as “limitation”, “challenges”, “uncertainty” and “concerning” (21) evaluate the study and explain the limitations of the findings of the associated RA.

20. However, the temporal sampling of their study is not sufficiently detailed to rule out the possibility that a near-steady-state condition existed following the warm period that occurred in the 1930s and 1940s. (ESNV14)
21. However, it is concerning that most of the data in Azoulay et al.<sup>5</sup> from the US (almost 70%) were based on the MarketScan database, mainly consisting of administrative claim data with no patient-level data. This dataset probably led to a major limitation of missing data, as well as confounding by over-representation of insured healthy patients who could afford incretin-based therapies. (HSNV11)

Move 5 Step 4, *commenting on (un)expectedness of findings of RA*, uses words and phrases such as “unexpected” in Example 22 and “not surprising” to express the N&V authors’ expectations of reported findings.

22. This was unexpected, because the predicted outcome of SCD inhibition would be the accumulation of saturated fatty acids that are toxic to cells at high concentrations.<sup>5</sup> (BSNV2)

In Move 6 Step 1, *suggesting future research*, the N&V authors suggest future research possibilities (23).

23. We eagerly await future output from this cohort, including extended time-series analysis, the influence of diet, drugs and other variables on functional activity. (HSNV6)

In Move 6 Step 2, *stating applications and implications of RA*, authors note the potential applications for industry (24) or health.

24. The stability and lifetime of LEDs are very important issues for commercial applications. (PSNV6)

It is important to note that the moves and steps are not always linearly presented in N&V articles. They are sometimes woven together or recycled. This is consistent with the well-attested phenomenon (e.g., [Moreno & Suárez, 2009](#); [Soler-Monreal et al., 2011](#); [Tankó, 2017](#)) of 'move cycling'. While the strapline is always the first move in N & V articles, and while news was invariably presented before views, the descriptive 'news' moves in news can be used in views (Example 25) and the more evaluative 'views' moves can be embedded as part of news (Example 26). As shown in Example 25, the author explains a key finding of the reviewed RA (Move 4 Step 4) against some shared background knowledge (Move 2 Step 2) and then interprets the key finding (Move 5 Step 1) by comparing it with previous studies (Move 2 Step 3).

25. The infant's skull permits the first peek at a nyanzapithecine brain [Move 2 Step 2]. Because the brains of modern apes develop much more rapidly than do those of humans, Nengo and colleagues interpret the infant's brain size as approaching that of an adult ape's [Move 4 Step 4]. Size analysis of the skull and adult teeth indicate that if the infant had reached adulthood, it would have weighed about 11.3 kg at maturity [Move 5 Step 1]. Relative to this estimated adult body weight, the brain cavity of *N. alesi*, 101 mL in volume, is substantially larger than the 35-ml brain-cavity volume of Old World monkeys from the same period<sup>6</sup> [Move 2 Step 3]. (ESNV5)

26. The chiral anomaly is one of the measurable properties of materials with Weyl nodes in their band structure [Move 2 Step 2]. In the past, various experiments have claimed to show the static version of this effect [Move 2 Step 2], but so far, no consensus has developed around whether alternative explanations can account for the data [Move 3 Step 1]. Now, writing in Nature Communications, Xiang Yuan and collaborators [Move 4 Step 1] have demonstrated a dynamical anomaly<sup>2</sup> [Move 4 Step 4]. This gives substantial evidence that Weyl semimetals do show these anomalies, and can couple to electromagnetic fields in unusual ways [Move 5 Step 1]. (PSNV3)

Example 26 is the first paragraph of Article PSNV3. After introducing shared background knowledge (Move 2 Step 2) and the research gap (Move 3 Step 1), the author announces the new publication in the field (Move 4 Step 1) and its key finding (Move 4 Step 4). Then the author draws on a 'views' move, evaluating the study by making claims/interpretations about key finding of RA (Move 5 Step 1).

The views part of N&V articles is similar, but not identical, to a book review. A similarity is that they both evaluate the strengths and weaknesses of the associated articles or books (Move 3 in [Motta-Roth \(1998\)](#)). But the main purpose of this in a book review is to recommend to the audience whether the reviewed book is worth reading or not (Move 4 in [Motta-Roth \(1998\)](#)). In contrast, the purpose of the 'views' part of N&V articles is more similar to the discussion section of a journal article ([Kanoksilapatham, 2005](#)) in that it interprets key findings, notes limitations and suggests future research. The difference is that N&V article authors interpret findings, and discuss limitations based on evaluating the associated RAs.

Considering frequency of the moves and steps, all six moves were obligatory, with only Moves 3 and 7 occurring in fewer than 100% of the N&V articles. The obligatory moves allow the N&V authors to introduce to the audience useful background information about the field under investigation and key components of a published journal article (e.g., method and key findings) while providing insightful evaluation of associated articles. The six obligatory moves identified demonstrate that N&V articles have elements of both the RA genre and review genres. Moves 1, 2, 3, 4 and 6 in N&V articles are similar to moves in RAs, while Moves 4 and 5 are similar to moves in review genres like book reviews.

Of the 21 steps in our move structure, 8 were obligatory. These included Move 1 Step 4 *results*, Move 2 Step 2 *making topic generalisations*, Move 2 Step 3 *reviewing previous research*, Move 4 Step 1 *explicit mention of RA and its authors*, Move 4 Step 3 *describing procedures of RA*, Move 4 Step 4 *presenting findings of RA*, Move 5 Step 1 *making claims/interpretations about the results of RA*, Move 5 Step 2 *positively evaluating findings of RA*. These functions clearly represent the key elements of N&V articles.

#### 4.2. Analysis of stance and engagement resources in N&V articles and RAs

We turn now to our comparison of stance and engagement in N&V articles and RAs. Our comparison showed that overall, stance and engagement markers were more frequent in N&V articles, which also used a wider range of linguistic resources. This is reflected in [Table 3](#), which shows that four categories of interactional metadiscourse were more frequent in N&V articles than in RA: attitude markers, boosters, engagement markers and hedges. The exception to this was self-mention, which, unexpectedly, was far more frequent in RAs.



**Table 3**

Frequency of stance and engagement markers in RAs and N&amp;V articles.

	N&V Total words 66,785		RA Total words 392,891	
	Number of instances	freq/1000	Number of instances	freq/1000
<b>Stance</b>				
Attitude markers	124	1.9	112	0.3
Boosters	367	5.5	989.5	2.5
Self-mention	73	1.1	2786	7.1
Hedges	738	11.1	2621.7	6.7
<b>Engagement</b>				
Engagement markers	194	2.9	394	1.0
	1496	22.5	6903.2	17.6

**Table 4**

Attitude markers in RAs and N&amp;V articles.

Frequency RAs	N&V
>1/10,000	Exciting, important, interesting, interestingly, remarkable, striking
0.2–0.99/10,000	correct, dramatically, even x, hopefully, importantly, limitation, notably, remarkably, surprise, surprising, surprisingly, unexpected, unfortunately
<0.2/10,000	Agree, agreement, disappointingly, essential, expected, fortunately, limited, major, strikingly, unfortunate.

It should be noted that the frequency of self-mentions in the RAs in our study is higher than that reported for RAs by Hyland (1998). Comparing our results to his biology RA corpus, he found 2.4 self-mentions per 1000 words, compared to 7.1 in our study. The frequency of engagement markers found by Hyland (0.7/1000 words) was slightly lower than in our study (1.0/1000). In contrast, again comparing our results with Hyland's biology corpus, he reports somewhat higher frequencies of hedges (12.2/1000) than in our study (6.7/1000); similarly, Hyland reports 3.5/1000 boosters compared with 2.5/1000 in our study, and he reports 1.3/1000 attitude makers compared with 0.3/1000 in our study. This may be because a relatively high proportion of words in the RAs in our study were devoted to the methodology. This is a section that is more likely to use self-mention than other sections, because it reports on the actions taken by the authors; method sections also emphasise objective measures and thus are less likely to use hedges, boosters and attitude markers.

Our finding that N&V articles use attitude markers, boosters, engagement markers and hedges more frequently than RAs aligns with previous findings (e.g., Gillaerts & Van de Velde, 2010) that review genres tend to use more interpersonal markers than genres presenting factual information to allow writers to express their attitudes towards reviewed articles and assess the value of findings in associated RAs.

Another important difference between the stance and engagement resources used in RAs compared to N&V was that a wider range of stance and engagement resources was used in N&V articles than in RAs.

Table 4 shows that attitude markers are both less frequent overall and more limited in number in RAs than in N&V articles. The N&V markers also show more extreme attitudes, both positive (exciting, remarkable, remarkably, essential, hopefully, importantly) and negative (unfortunate, unfortunately, disappointingly). As Bruce (2016) found in his analysis of critical expression in essays, most attitude markers used in critical evaluation in our corpus were adjectives and adverbs.

"Important" and "interestingly" were the most frequent attitude markers in both sets of writing, but they were both four times more frequent in N&V. This suggests these as important values in academic science. "Interesting" was also frequent in N&V. It can be seen (Examples 27 and 30) that what is said to be "important" and "interesting" in RAs relates to detailed technical facts to do with the research and to bigger more general claims and findings in N&V (Examples 28, 29 and 31).

27 Interestingly, both SF8628 and DIPG-IV cells share the top down regulated molecular functions (RA, HSRRNV10b)

28 Finally, it is interesting to consider the methodological opportunities that are opening up. (N&V, PSNV9)

29 Interestingly, the authors found that the increase in persistent DNA viruses occurred after the development of GVHD (N&V, BSNV8)

30 Such distinct roles for the biochemical motifs of A20 might provide important insight into how A20 performs its physiological functions. (RA, HSRRNV15)

31 The demonstration of Im and team is an important step toward practical, large-scale ASSLBs. (N&V, PSNV2)

**Table 5**  
Boosters in RAs and N&V articles.

	RAs	N&V
>1/10,000	Demonstrate, find (v), finding, found, indeed, show, showed, shown, shows,	Clear, clearly, demonstrate(d), find (v), finding, found, in fact, indeed, known, knowledge, must (possibility), show, showed, shown, shows, thought
0.2–0.99/10,000	Clear, clearly, demonstrated, established, known, knowledge, must (possibility), showing, thought	Actually, certainly, definite, definitely, know, never, no doubt, obvious, obviously, of course, showing, thinking, truly, undoubtedly
<0.2/10,000	Actually, always, believe, demonstrates, establish, in fact, know,	established, find (n), proved, realize, realized, sure, undeniable,

Table 5 shows that, as with attitude markers, boosters are also less frequent overall and more limited in number in RAs than in N&V articles. Again, there are signs of more definite language (“certainly”, “definite”, “definitely”, “no doubt”, “undoubtedly”) in the N&V articles, resources which do not appear in the RAs.

The most frequent boosters in both RAs and N&V are the three reporting verbs “find”, “show” and “demonstrate” and their inflections. Together they appear 1.9 times in every 1000 words in RAs and 3.6 times in every 1000 words in N&V. These are potentially strong words that can represent findings as incontestable. Yet the examples below suggest that these words are used to make bigger claims in N&V and smaller more detailed claims in RAs. For example, in the case of Example 33 from an RA, “show” is being used to refer to what a diagram shows, while “show” in Example 32 refers to a knowledge claim made by “McCaughy and colleagues”. In Example 34, in a N&V article, “demonstrated” references a study’s main knowledge claim, while in Example 35 from an RA, it concerns a smaller claim within a study.

- 32 McCaughy and colleagues<sup>2</sup> do not contradict those conclusions and related policy implications, but show that under certain circumstances things might be more complicated. (N&V, ESNV4)
- 33 The wave rose diagram shows wave conditions during 2014 with dominant wave approach from the southwest (RA, ESRRNV7)
- 34 Researchers recently demonstrated that thermoelectric materials can be produced in good quality by 3D printing (N&V, PSNV5)
- 35 In vitro studies with human epithelial keratinocytes demonstrate that the devices are biocompatible. (RA, PSRRNV15)
- 36 We are tempted to speculate that a core component of the antibacterial response is direct killing mediated by mitochondria ... (N&V, BSNV12)
- 37 Nengo et al.<sup>4</sup> describe an extremely rare fossil find that I never thought would be made during my lifetime (N&V, ESNV5)
- 38 The fibre positions allowed us to tune the time delay between the photons. (RA, PSRRNV13)
- 39 Supplementary Figure 4A shows the CAD schematics of our automated optical microscope system (RA, PSRRNV7)
- 40 We used the interactive mode also to rule out correlations between blinking, diffusion and concentration (RA, BSRRNV15)

Interestingly, given the reputation of RAs for being impersonal, self-mention is more common in RAs than in N&V articles. It should be noted that only uses of “I”, “we”, “our” etc. That refer directly to the authors (i.e., exclusive of the readers or the research community) are counted as markers of self-mention. Inclusive uses of these markers (i.e., those that include the readers or research community) are coded as engagement markers. Table 6 shows that “we” and “our” are the commonest self-mention stance resources in the RA data set, each with a frequency of more than once in 1000 words. Self-mention was largely used in describing the method (Examples 38, 39 and 40) which is usually lengthy in the articles in our data. These resources were not used in expressing opinions, but were limited firstly to reporting research actions (e.g., “we verified normality using Shapiro-Wilk’s test”) or specific findings (e.g., “we found that 49% of spines were unresponsive”) or sharing

**Table 6**  
Self-mention in RAs and N&V articles.

	RAs	N&V
>1/1000	we, our (exclusive)	
>1/10,000	us	
0.2–0.99/10,000		we (exclusive)
<0.2/10,000		I, my, one

with readers the arguments that guided their methodology (e.g., “we hypothesized that this lipid is produced by gut organisms in high-risk neonates”) or, rarely, in asserting their own key findings (e.g. “in this paper we present evidences of one-dimensional dispersive gap-edge states”). In contrast, authors of N&V articles seldom refer to themselves. Most uses of “we”, “one” and “us” in N&V are used inclusively, referring to people in general, thus serving as engagement markers. Examples 36 and 37 from N&V are unusual in that the writer specifically refers to him/herself.

The more frequent use of self-mention in RAs than in N&V articles demonstrates that N&V writers have a different relationship with the reader than that between the reader and writer of an RA. The writers of RAs report their own research, taking responsibility for their arguments and the reliability of their methods and findings. In contrast, N&V writers are distant from the research; they report on research done by others, providing the reader with an objective assessment of its reliability and importance.

Both RAs and N&V articles use a wide range of hedging resources (Table 7). These range from modals used with epistemic meaning (“could”, “may”, “might”, “would”), approximation adverbs (“around”), probability adverbials (“probably”), usuality adverbs (“typically”), reporting verbs (“indicate”, “suggest”) and verbs descriptive of research activities (“estimate”). The same hedges were used in N&V articles and in RAs, but they were twice as frequent in N&V articles than in RAs. Of note is that modal auxiliaries used with epistemic meaning were three times more frequent in N&V articles, and probability adverbs twice as frequent, suggesting N&V authors’ greater distance from the reported findings compared to the RA authors.

As discussed in relation to other stance resources, RAs were likely to hedge details of their own research while N&V articles hedged the overall findings of the RA being reviewed. So modals used with epistemic meaning in RAs hedge details about research into, for example, schizophrenia (Example 41) and bacteria (Example 43). N&V articles in contrast hedge bigger claims about potential future research (Example 44) and theories about planet formation (Example 45). In Example 45, an RA uses “estimated” to give an accurate idea of how exactly a measurement was made, while in Example 46 writer uses “suggest” to question whether the RA being reviewed fully agrees with all known facts.

- 41 we hypothesized that a greater overlap between gray matter loss and fragile hubs would be correlated with an earlier age-of-onset of schizophrenia (RA, HSRRNV5)
- 42 The next challenge would consist of developing a technology that allows for the modification and reading of the magnetization states (N&V, PSNV14)
- 43 Hence, small changes in the abundance of *R. gnavus* may be more consequential than previously assumed. (RA, HSRRNV6)
- 44 These close-in giant planets may have formed far from their suns, as did Jupiter (N&V, ESNV2)
- 45 The electron temperature was estimated to be 360 mK. (RA, PSRRNV8)
- 46 But if the core contains a significant amount of U and Nd, as Wohlers and Wood’s results suggest, the silicate Earth should be left with higher Th/U and Sm/Nd ratios than those of the Sun. (N&V, ESNV2)

The finding that both N&V articles and RAs use a wide range of hedges shows the value of the N&V genre to graduate students: hedges are useful in discussing findings either when reporting one’s own study or reviewing other scholars’ work.

Table 8 indicates that RAs use a very limited set of engagement markers, including three imperatives (“note”, “see”, “compare”) two modals used with deontic meaning (“should”, “must”), the personal pronoun “us” (inclusive) and the impersonal pronoun “one”. N&V articles use these resources more frequently, and in addition they use a wider range of

**Table 7**  
Hedges in RAs and N&V articles.

	RAs	N&V
>1/1000		could, may, might, would
>1/10,000	About, approximately, around, assumed, could, estimate(d), indicate/s/d, likely, may, might, possible, probably, relatively, should, suggest/s/ed, typically, would	About, almost, around, assumed, doubt, estimate, generally, indicate/s, likely, mainly, often, perhaps, possible, probably, relatively, seems, should, suggest/s/ed, tend to, typically, unclear, usually,
0.2–0.99/10,000	Almost, apparent, appear/s, assume, fairly, frequently, generally, largely, mainly, mostly, often, perhaps, possibly, presumably, roughly, seems, somewhat, tend to, typical, unclear, unlikely, usually,	apparent/ly, appear/s, approximately, argue, claim, essentially, estimated, indicated, in general, largely, mostly, plausible, possibly, postulate, presumably, probable, roughly, sometimes, somewhat, uncertain, unlikely,
<0.2/10,000	Appeared, broadly, essentially, in general, probable, rather x, tends/ed to, uncertain,	Appeared, assume, broadly, claims/ed, quite, rather x, tends/ed to,

**Table 8**  
Engagement markers in RAs and N&V articles.

	RAs	N&V
>1/10,000	note, see, should, key	? key, one, our, see, should, we (inclusive),
0.2–0.99/10,000	must	— (aside), consider, expect, must, need to, note, take (a look/as example), us (inclusive)
<0.2/10,000	us (inclusive), one, compare,	apply, remember, you,

markers, including additional imperatives, and modals with deontic meaning. Particularly noticeable in N&V is the high rate of inclusive personal pronouns (“we”, “our”, “us”), which make generalisations about members of the community, and include the reader as members of the community. Notably N&V articles also use questions (“?”) and imperatives, which are highly engaging in that they encourage the reader to ask/answer the questions. Asides (–) confidentially address the reader, sharing the author’s opinion with them.

RAs use imperatives like “see” and “compare” to refer readers to other parts of the article, particularly figures (see Example 47). N&V articles use them to refer readers to the RA that is being critiqued (Example 48). RAs use deontic “should” to instruct readers about how to use their findings or methods (Example 49) while N&V use deontic “should” to recommend further research (Example 50). Personal pronouns “we” and “our” in N&V refer to the community in general (Example 51).

47 The change in rate for CFC-11 (see Fig. 4), however, is substantially larger (RA, ESRRNV3)

48 Carbon dioxide could have acted as an alternative oxidant (see Extended Data Fig. 5 of the paper<sup>5</sup>) (N&V, ESNV10)

49 physicians prescribing GLP-1 analogues should be aware of this association and carefully monitor patients for biliary tract complications. (RA, HSRRNV11b)

50 Computational and experimental research to discover better nanocomposite materials as anodes should be considered (N&V, PSNV2)

51 Perturbations in our genetic structure may result in new functions required for some change in our environment, and we can survive outside of our happy niche for generations. But where are the limits on this sort of diversity? (N&V, HSNV5)

To summarise this comparison of the stance and engagement resources of RAs and N&Vs, RAs are more likely to focus on technical details on their own study, while N&V present a more distant view of the study, and focus on larger knowledge claims made by the RA being reviewed. This greater level of critical distance further emphasises the value of N&V articles as an exemplar for graduate students of critical evaluation. However, although attitude markers, boosters, hedges and engagement markers were more frequent in N&V articles than in RAs, it is notable that these resources were very similar in kind. This suggests that learning to write the N&V genre is likely to have value for students in their future writing of other academic genres such as RAs or theses, as similar lexico-grammatical resources are used.

## 5. Teaching critical review of literature with news and views as an exemplar

The above analysis of rhetorical moves and evaluative language in the N&V genre can be applied to teaching science graduate students to review literature critically. We present below four pedagogical applications of this analysis.

First, students could be given opportunities to discuss how criticality is achieved in a review genre. Bruce (2014) argues that criticality is partially achieved by employing appropriate rhetorical moves and attitude markers in literature reviews. Lecturers teaching the N&V genre could draw on our analysis to raise students’ awareness of how rhetorical moves and stance and engagement resources combine in N&V articles in creating criticality and making critical stance salient. Lecturers could emphasise that the news, which reports on key components of associated articles (methods, findings, purpose, and authors), should be announced before presenting views, which critically review the associated articles. Our analysis indicates that six moves and eight steps are obligatory in writing N&V articles. However, our analysis can also be used also to show students the wider range of steps that can be used and the fact that their order is not invariable. Our analysis can be used to show students that critical stance can be achieved by adopting a wide range of attitude markers, boosters, engagement markers and hedges. This includes emphatic expression of attitudes (e.g., “important,” “interestingly”), definite language (e.g., “clear,” “must”), inclusive personal pronouns as engagement markers (e.g., “we”) and unique sentence forms (e.g., questions, aside).

Second, students could be taught the structure and language of a critical review. Explicit teaching of the move structure and stance and engagement markers could equip students with strategies and language forms for their own writing. Discussion of each move and step could help students understand the core constructs of the rhetorical structure. Authentic examples of moves and steps taken from published work by senior researchers could be used to give students a concrete idea of how these elements are realized in authentic contexts. Data-driven learning activities (e.g., searching for the form and examining the concordance lines of particular stance makers using web-based or self-compiled corpora) could be developed to engage students in exploring the usage patterns of the most frequent stance and engagement makers in context (e.g., forms, meanings, positions, and frequency). Where resources are available, interactive writing tools on writing review genres and stance and engagement language could be developed to increase students’ interest and enhance their learning experience.

Third, students could be guided how to decode the literature critically. Articles provide necessary content for subject learning as well as useful input for writing courses. Published articles can serve not only as authentic readings, but also as models for learner academic writers. The four-resource model (Freebody & Luke, 1990; Luke, 2012), a widely used model for decoding readings critically, could be combined with genre pedagogy in teaching review genres in the university context. The four resources suggested by Freebody and Luke are: code-breaker, understanding linguistic and multi-modal symbols and structure; text participant, applying readers’ background knowledge in inferring textual meanings; text user, deciding the purpose and usefulness of given texts by considering the contextual information; text analyst, analysing the texts critically.

We could, for example, ask students to apply the strategy of code-breaker to decode the functions of stance and engagement markers in selected N&V articles and reflect on what markers they could use to create their critical stance. We could ask the students to apply the strategy of text user to analyse the purpose of a particular move or step in a selected example and discuss what sequence of moves and which steps they could employ in their writing and how they could use both the move structure and stance and engagement resources in order to achieve their own purposes.

Finally, the teaching of critical reviews discussed above could be applied in different courses and contexts including science graduate courses with the N&V genre as assessment tasks, science research and writing training courses for research students and early career academics, in-discipline and generic academic writing courses for postgraduate students (e.g., how evaluation and engagement are achieved in academic writing). Language and literacy teacher training courses could use similar resources (e.g., a module on language use and move structure in review genres, the N&V genre, literature reviews in a proposal, book reviews, film reviews, and annotated bibliography).

A limitation of the genre in teaching critical review<sup>6</sup> is that most N&V articles describe a single article. This contrasts with the task facing students writing literature reviews, where comparison between studies is necessary. For teaching purposes therefore, it is necessary to expose students to review genres such as review articles, or discussion of conflicting findings is achieved in RAs.

## 6. Conclusion

We suggest that our analysis of six obligatory moves, eight obligatory steps and the wide range of attitude markers, boosters, engagement markers and hedges in the N&V genre could inform the teaching of critical review in the university context. We anticipate that our findings will be particularly useful in supporting news and views as assessment tasks in graduate science courses.

A limitation of the study is that only the interactional markers of the metadiscourse framework suggested by Hyland were analysed; an analysis using Hyland's interactive framework might also be of value. A further limitation is that the article does not report on the effectiveness of the suggested pedagogy using classroom data. Taking these limitations into account, this study suggests several future research possibilities. Detailed move analyses of review genres as presented in this study compared with move analyses of journal articles are surprisingly scarce in the literature, not mentioning assessment of the effectiveness of pedagogy of critical review genres and teaching critical skills using review genres. Future studies could examine the move structure and evaluative language in professional review genres such as critical reviews and review articles published in journals and students writing samples could be analysed to examine to what extent the taught strategies are employed.

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## References

- Basturkmen, H. (2012). A genre-based investigation of discussion sections of research articles in dentistry and disciplinary variation. *Journal of English for Academic Purposes*, 11(2), 134–144.
- Bruce, I. (2014). Expressing criticality in the literature review in research article introductions in applied linguistics and psychology. *English for Specific Purposes*, 36, 85–96.
- Bruce, I. (2016). Constructing critical stance in university essays in English literature and sociology. *English for Specific Purposes*, 42, 13–25.
- Cotos, E., Huffman, S., & Link, S. (2017). A move/step model for methods sections: Demonstrating rigour and credibility. *English for Specific Purposes*, 46, 90–106.
- Freebody, P., & Luke, A. (1990). Literacies programs: Debates and demands in cultural context. *Prospect: An Australian Journal of TESOL*, 5(3), 7–16.
- Giannoni, D. S. (2009). Negotiating research values across review genres: A case study in applied linguistics. In *Academic evaluation* (pp. 17–33). London: Palgrave Macmillan.
- Gillaerts, P., & Van de Velde, F. (2010). Interactional metadiscourse in research article abstracts. *Journal of English for Academic Purposes*, 9(2), 128–139.
- Harwood, N. (2005). 'We do not seem to have a theory . . . The theory I present here attempts to fill this gap': Inclusive and exclusive pronouns in academic writing. *Applied Linguistics*, 26(3), 343–375.
- Hyland, K. (1998). Persuasion and context: The pragmatics of academic discourse. *Journal of Pragmatics*, 30, 437–455.
- Hyland, K. (2004). *Disciplinary discourses*. University of Michigan Press.
- Hyland, K. (2005a). Stance and engagement: A model of interaction in academic discourse. *Discourse Studies*, 7(2), 173–192.
- Hyland, K. (2005b). *Metadiscourse: Exploring interaction in writing* (Bloomsbury).
- Hyland, K., & Diani, G. (2009). *Academic evaluation: Review genres in university settings*. Palgrave Macmillan.
- Kanoksilapatham, B. (2005). Rhetorical structure of biochemistry research articles. *English for Specific Purposes*, 24(3), 269–292.
- Kwan, B. S. C. (2006). The schematic structure of literature reviews in doctoral theses of applied linguistics. *English for Specific Purposes*, 25(1), 30–55.
- Luke, A. (2012). Critical literacy: Foundational notes. *Theory Into Practice*, 51(1), 4–44. <https://doi.org/10.1080/00405841.2012.636324>
- Maswana, S., Kanamaru, T., & Tajino, A. (2015). Move analysis of research articles across five engineering fields: What they share and what they do not. *Amperand*, 2, 1–11.
- Miller, C. (1984). Genre as social action. *Quarterly Journal of Speech*, 70, 151–167.
- Moreno, A. I., & Suárez, L. (2009). Academic book reviews in English and Spanish: Critical comments and rhetorical structure. In K. Hyland, & G. Diani (Eds.), *Academic evaluation* (pp. 161–178). London: Palgrave Macmillan.

<sup>6</sup> We are indebted to a reviewer for this point.

- Motta-Roth, D. (1998). Discourse analysis and academic book reviews: A study of text and disciplinary cultures. In I. Fortanet, S. Posteguillo, J. C. Palmer, & J. F. Coll (Eds.), *Genre studies in English for academic purposes* (pp. 29–58). Castelló: Publicacions de la Universitat Jaume I.
- QSR International Pty Ltd. (2018). NVivo (version 12). <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>.
- Scott, M. (2012). *WordSmith Tools version 6*, stroud. Lexical Analysis Software.
- Shaw, P. (2009). The lexis and grammar of explicit evaluation in academic book reviews, 1913 and 1993. In K. Hyland, & G. Diani (Eds.), *Academic evaluation: Review genres in university settings* (pp. 217–235). Springer.
- Soler-Monreal, C., et al. (2011). A contrastive study of the rhetorical organisation of English and Spanish PhD thesis introductions. *English for Specific Purposes*, 30(1), 4–17.
- Starks, D., & Lewis, M. (2003). The annotated bibliography: Structure and variation within a genre. *Australian Review of Applied Linguistics*, 26(2), 101–117.
- Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.
- Tankó, G. (2017). Literary research article abstracts: An analysis of rhetorical moves and their linguistic realizations. *Journal of English for Academic Purposes*, 27, 42–55.
- Tse, P., & Hyland, K. (2009). Discipline and gender: Constructing rhetorical identity in book reviews. In K. Hyland, & G. Diani (Eds.), *Academic evaluation: Review genres in university settings* (pp. 105–121). Springer.
- Viera, A. J., & Garrett, J. M. (2005). Understanding interobserver agreement: The kappa statistic. *Family Medicine*, 37(5), 360–363.
- Zou, H., & Hyland, K. (2020). Managing evaluation: Criticism in two academic review genres. *English for Specific Purposes*, 60, 98–112.

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