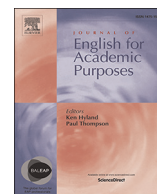




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Researching EAP Practice

Looking past limiting conditions: Prioritizing meaning in EAP

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1. CLIL context and implications

This example of researching and developing lessons in response to authentic texts is situated in a CLIL model of discipline-specific EAP in a first year university program, drawing from texts in students' coursework to highlight how language is used to construct meaning. We are language instructors who design our lessons to respond to student needs and features of specific disciplinary practices, mining both our students' course readings for valued language features and linguistics research to guide our instruction. In addition to the expected tasks of analyzing and paraphrasing difficult vocabulary and jargon, we look at features of academic discourse that construct meaning in valued ways within disciplines (Pringle & Potvin, 2018). These may be organizational features such as a high level of abstraction in introductions and conclusions, or grammatical features such as the use of the simple past tense to indicate completion. While some features are relevant to English for General Academic Purposes (EGAP), much of our task development is done in response to disciplinary texts, an English for Specific Academic Purposes (ESAP) approach. Contrastive analysis reveals some interesting differences: as an example, the use of passive voice is common in the Methods section of prototypical Psychology IMRD (Introduction, Methods, Results, Discussion) papers to focus on procedure. In Political Science, however, the passive voice is more likely used to absolve or erase responsibility or agency of political or historical participants (Walsh Marr, 2019a). To avoid minimizing the important differences within the actual disciplines with which our students engage, we compare and contrast features within and across

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texts, focusing on the function of various features in constructing meaning. We use these highlighted features as the basis for tasks that enable students to better comprehend their academic course content, critically engage with it, and represent and paraphrase their understanding and ideas in their own writing assignments.

We adhere to [Lorenzo's \(2013\)](#) exhortation that "... a CLIL methodology [would] need [s] to clarify how knowledge structures in the disciplines (causality in history or multiplicity in maths) match textual structures" drawing on "a linguistic approach above the level of sentence which incorporates discourse and pragmatic factors into its grammatical framework." (p. 378). We look at authentic disciplinary texts with students, highlighting those valued knowledge structures and textual features and helping students incorporate them into their own production. This approach is bolstered by [Master's \(2000\)](#) claim that, "... a principled attention to form within the areas of content being studied is considered necessary, especially if the aim is to acquire cognitive academic language proficiency" (p. 94). Master goes on to suggest that, "The grammatical items that best lend themselves to exploitation in CBI [content-based instruction] contexts are those that are linked to rhetorical structure." ([Master, 2000](#), p. 98). Thus beyond the acquisition of vocabulary and practice of paraphrasing, we aim for the *application* and extension of the sophisticated ideas our novice scholars are engaged with. This paper attempts to explore and argue how an enhanced exploration of authentic instantiations of conditional logic supports these principles with concrete examples and practice.

The germ of this paper is an initial analysis of an assigned first year Political Science text describing the various ways minority governments might be formed through coalitions ([Lijphart, 2012](#)). The text was assigned to students for lecture and discussion by their Political Science instructor, and the language analysis and subsequent grammar-focused lessons prepared by the collaborating academic English instructor. The initial reading of the text revealed several instantiations of dependent "if" clauses for hypothetical situations such as:

"In parliamentary systems of government, cabinets have to be formed so that they will enjoy the confidence of – or will at least be tolerated by – a parliamentary majority. Can we predict which particular cabinet will form if we know the strengths of the different parties in parliament? If one party has a majority of the parliamentary seats, a prediction appears to be easy: the majority party is likely to form a one-party cabinet ...

"... If no party has a parliamentary majority, it is likely – barring the formation of a one-party minority cabinet – that a coalition cabinet will be formed, but which coalition is the most likely one?" ([Lijphart, 2012](#), p. 92, p. 92)

The *if* clauses are easily recognizable, and there is even explicit reference to prediction and likelihood; these structures are easily identified and commonly referred to in EAP coursebooks, grammar books and teacher resources as "conditionals"; students typically have no trouble recognizing the logic. However, in the following excerpt, the meaning of a result being contingent upon a particular situation (the underlying logic of conditionals) is not so apparent to readers relying on *if* to indicate conditionality:

"William H. Riker's (1962, 32–46) "size principle" predicts that minimal winning coalitions will be formed: winning (majority) coalitions in which only those parties participate that are minimally necessary to give the cabinets majority status. ... Coalition ABC (a cabinet coalition of parties A, B and C) is a winning coalition because A, B, and C control a majority of fifty-five out of one hundred parliamentary seats. It is minimal because all three parties are necessary to form a majority. The elimination of the smallest coalition partner, party A, would reduce the coalition's parliamentary support from a majority of the seats, fifty-five, to a minority of only forty-seven. The addition of party D to the coalition would make it larger than minimal, because in coalition ABCD either A or D could be eliminated without losing majority support." ([Lijphart, 2012](#), p. 92, p. 92)

In this excerpt, we can understand the predictive nature of the scenarios described: "*The elimination of the smallest coalition partner, party A, would reduce the coalition's parliamentary support from a majority of the seats, fifty-five, to a minority of only forty-seven.*" However, the conditional logic is not represented with an 'if-clause' (if we eliminate the smallest coalition partner, ...); instead, the antecedent clause represents the information in a nominalization: "The elimination of the smallest coalition partner ..." followed by what *would* happen in this situation. Both students coming from form focused traditions and EAP instructors relying on supplementary grammar resources are at risk of missing this logic and meaning without the telltale 'if' marker. Recognizing the gap in the meaning and grammar resources at hand, we went to our supplementary EAP and grammar resources to investigate and develop appropriate, responsive teaching and learning materials. Following the advice we often give our students, we began with what we (thought) we knew and challenged ourselves from there.

2. The gap between form focused EAP texts and authentic disciplinary texts

2.1. How conditionals are often taught and understood

In our teacher training and supplementary grammar resource books, we noted a consistent pattern of establishing form-focused formulae for the representation of conditionality. Murphy and Smalzer's best selling *Grammar in Use: Intermediate* ([2001](#)) is designed for student self-study, but also suggests it "be used by the teacher as a source of ideas and information on which to base a lesson" (2001, p. viii). Conditionals are somewhat contextualized in mini-scenarios that suggest the hypothetical, but they are not distinguished by type or function. They are, however, explicit in their reliance on *if*, referring to "the if

part of the sentence" (p. 70). The more recent Grammar and Beyond Series (Reppen, 2012; Bunting et al., 2013) introduces "factual conditionals" in concert with time clauses in its low intermediate to intermediate text (2012), also relying exclusively on *if*. In discussing future conditional and time clauses, however, the text differentiates between using *if* for possibility and *when* for certainty, referring to the "conditional clause" (p. 221) rather than labelling it an *if clause*. The advanced text, however, reverts to labelling conditional clauses exclusively as an "if clause" when introducing present and future unreal conditionals (2013, p.40–42), then expanding to include "unless" with "even if" and "only if" as a vocabulary presentation (p. 43–44). Practice activities use only *if* constructions to show condition.

In a textbook written specifically for students developing their academic reading and writing skills for university study, Marshall (2017) presents conditional sentences by delineating the "main clause and the conditional clause (also known as the *if clause*)" (p. 391). It lists conditionals by type (zero, first, second, third and mixed), acknowledging the alternative forms using "when, as soon as and unless" (p. 394) in practice activities and summarizing chart (p. 397–398).

It is difficult for resources such as these to cover all the points and usages of language, and to draw from authentic texts matching students' linguistic proficiency. If instructors look beyond student-facing grammar texts, they may find a similar pattern: constructions are distinguished from one another, laid out for clarity, but underrepresenting the variety of forms manifest in authentic texts. The simplification of forms risks giving students a limited repertoire and even appreciation of how meanings can manifest in texts. The risk is greater when instructors rely on these resources to inform their own understanding of English and its instruction.

This "highly oversimplified representation" (Celce-Murcia & Larsen-Freeman, 1999, p. 544) of conditionals is discussed and expanded upon in the *Grammar Book: An ESL/EFL Teacher's Course*, a foundational training text, with lists of "other words, phrases constructions that signal conditionals" (p. 560) such as *unless, even though, whether or not*, as well as the verbs *hope* and *wish*. It seems it is incumbent upon us as EAP instructors to look beyond simplified grammar and EAP textbooks and into linguistic research to better inform our practice.

2.2. Contested role of EAP textbooks

Most English language instructors, regardless of the context in which they teach, draw from various coursebooks and supplementary texts to deliver their lessons. However, Harwood's (2005) summary of the debate around the purpose and usefulness of EAP textbooks warns of the gap between the expertise and qualifications of textbook writers, and the reality of the academic contexts for which their products are supposed to prepare students. He goes so far as to claim, "EAP textbook writers rely far too much on intuition or folk beliefs when attempting to describe academic discourse norms" (Harwood, 2005, p. 150) rather than linguistic and pedagogic research. This is entirely at odds with the purpose of the discipline of EAP.

In a specific analysis, Moreno (2003) analyses EAP textbooks for typical cause-effect essay assignments and finds EAP textbooks do not adequately describe and teach the various structures more authentic disciplinary texts use to indicate causation. Her analysis of "atypical" instantiations of causation in Economic texts notes that beyond explicit conjunctions such as "because" and "so", causation employs causal markers and phrases between sentences (intersentential), within sentences (intrasentential) and as prepositional phrases. The rationale for this fine-grained approach is to better represent "a more faithful account of the targeted feature" (Moreno, 2003, p. 35) students are likely to encounter, and better enable students to engage with the meaning manifest in authentic texts, whatever their form.

We take this same type of attention to the logic of conditionals to some typical first year disciplinary texts to highlight authentic language use and enhance our EAP pedagogy.

2.3. Conditional logic across disciplines

Recognizing the initial Political Science example about coalition governments might seem particularly niche, we explored first year textbooks across a few more disciplines in our program for authentic examples of conditional logic, finding examples in Psychology, Physics and Economics. We note conditionality in thinking verbs in the imperative (imagine, suppose, assume, etc), non-finite dependent clauses (given X, provided X), and subordinate conjunctions (as long as, when) to indicate conditionality. Our students seem entirely unfamiliar with these alternative forms and none of the supplementary EAP texts we had at hand discuss these comprehensively to support developing teaching resources.

2.3.1. Psychology

Psychology textbooks not only use conditional logic in examples, but the discipline itself explicitly discusses logical reasoning as an aspect of human cognition (Manfrinati, Giaretta & Cherubini, 2008). In surveying an open-access, introductory textbook (OpenStax, 2020), we noted the following excerpts as alternatives to *if clause* representations:

"On the other hand, when an organism demonstrates the conditioned response to stimuli that are similar to the condition stimulus, it is called stimulus generalization, the opposite of stimulus discrimination. The more similar a stimulus is to the condition stimulus, the more likely the organism is to give the conditioned response. For instance, if the electric mixer sounds very similar to the electric can opener, kitty may come running after hearing its sound. But if you do not feed her following the electric mixer sound, and you continue to feed her consistently after the electric can

opener sound, she will quickly learn to discriminate between the two sounds (provided they are sufficiently dissimilar that she can tell them apart) (p. 201).

Imagine you find a venomous snake crawling up your leg just after taking a drug that prevented sympathetic nervous system activation. What would the James-Lange theory predict about your experience? (p. 377)

Self-disclosure is the sharing of personal information (Laurenceau, Barrett, & Pietromonaco, 1998). We form more intimate connections with people with whom we disclose important information about ourselves. Indeed, self-disclosure is a characteristic of healthy intimate relationships, as long as the information disclosed is consistent with our own views (Cozby, 1973)" (p. 457).

It would be ironic if students studying cognition in a Psychology class didn't have full comprehension of the semantics due to their previous EAP instruction. The variant forms of conditionality here demonstrate the importance of prioritizing meaning making through authentic language analysis.

2.3.2. Physics

Word problems form the cornerstone of learning and assessment in Physics, posing hypothetical scenarios from which students need to extract the relevant information to calculate a possible solution and analyze its practicality. The example below from a first year Physics text sets up a hypothetical situation, using an imperative '*suppose*' rather than an *if*:

"The electric force between two charged particles becomes weaker with increasing distance. Suppose instead that the electric force was independent of distance. In this case, would a charged comb still cause a neutral insulator to become polarized as in Fig. 21.8? Why or why not? Would the neutral insulator still be attracted to the comb? Again, why or why not?"

(Young et al., 2016, p. 712, p. 712)

The first task focuses on meaning: students are to identify the conditions of the hypothetical scenario in the word problem. This comprehension check is fundamental, as "[h]ypothetical reasoning easily reveals misconceptions" (Louwerse et al., 2008, p. 58). Students who rely on an explicit *if* structure face an additional barrier to accessing underlying principles of Physics. Focused attention to the logical meaning of such word problems ensures they better understand the context and conditions before jumping into the formulations.

2.3.3. Economics

Similar to Physics, Economics relies on word problems to teach and assess the application of formulae to hypothetical scenarios with varied forms for conditional logic.

Imagine that, as before, the marginal propensity to spend is 0.8, so that the multiplier is 5. If the government increases expenditure on goods and services by \$1 billion, overall GDP in the economy will increase by \$5 billion. Thus to offset the decrease in real GDP of about \$90 billion between 1929 and 1933, assuming a marginal propensity to spend of 0.8, the federal government should have increased government spending by \$18 billion. The multiplier is a double-edged sword. It has the bad effect that it can turn small decreases in spending into big decreases in output. But it also means that relatively small changes in government spending can have a big effect on output (Cooper & John, 2012, p. 195).

The issue of atypical conditionals for teaching Economics to EAL users was raised more than 40 years ago, confirming that "the relationships between economic concepts and their verbal expressions cannot be precisely correlated" (Mead & Henderson, 1983, p. 159). The issue exists beyond Economics, however; these examples and analyses demonstrate how EAP instructors need to take a closer, more critical look at "textual grammar" situated within authentic texts (Bruce, 2011, p. 84), lessening their reliance on tidy, yet formulaic representations of grammar rules that don't adequately represent meaning making.

2.4. Pedagogical responses

In recognizing how academic disciplines represent conditional logic, it has made us realize it is important to extend our understanding and instruction beyond tidy, form-focused tasks. We need to reach beyond typical supplementary grammar textbooks into linguistic research. We need to critically analyze the meanings constructed through varied language features within authentic academic texts, then make these clear to EAP learners. Our learning tasks need to be more nuanced, deconstructing underlying meaning and then interrogating the language features used to expand students' repertoire. Our resulting class tasks range from simple matching activities to more open-ended guiding questions to highlight the relationship between clause concepts. We have represented logical relations graphically, plotted concepts in relation to one another, and practised alternate structures through paraphrasing selections of texts. Mead and Henderson (1983) identified conditional logic by paraphrasing each excerpt across *if* and *non-if* structures, then identifying both the underlying meaning and context in which these types of logic typically manifest in Economics texts. In Physics, the instructor gives students typical formulations of word problems such as:

"If you walk across a nylon rug and then touch a large metal object such as a doorknob, you may get a spark and a shock. Why does this trend happen more on dry days than on humid days? (Hint: See Fig. 21.30.) Why are you less likely to get a shock if you touch a small metal object, such as a paper clip?"

(Young et al., 2016, p. 713)

This type of scenario is then reformulated into phrases using non *if* clauses, such as:

When you walk across a nylon rug and then touch a large metal object such as a doorknob, you might get a spark and a shock.

Suppose you walked across a nylon rug and then touched a large metal object such as a doorknob. What might happen?

The student task is to identify which conditional reformulations (from a longer list that includes distractors) match the meaning of the original *if* statement. The follow up task is to then deconstruct the linguistic changes made in the appropriate reformulations (Walsh Marr, 2019b). This allows students to recognize the logic of the physics in different manifestations, as well as the language choices available to rework the word problems in subsequent paraphrases without compromising on meaning.

In the Political Science examples, the instructor asked when a political coalition might happen, what would trigger it, and how likely it would be; beyond concept checks, these questions added language resources to students' repertoires as they expanded their conceptualizations of the target content.

The aspect of the likelihood of a potential result is also important to explore, as it, too, can vary in both meaning and form. Through class discussion on the nuanced meanings within a Political Science textbook (O'Neil, 2015), we plot how likely a result seemed on a sliding scale of probability in the consequent clause as per Fig. 1 below:

Our instruction has also included explicit demonstration of the phenomenon of Grammatical Metaphor, the 'shape shifting' of meaning across various grammatical forms (Halliday & Matthiessen, 2004). We explicitly teach the phenomenon of Grammatical Metaphor as part of our overall SFL-informed pedagogy (Walsh Marr, 2019b), revisiting different types of GM as they manifest in texts. In the context of conditionals, we refer to *logical metaphor*, where logic traverses grammatical structures, often across clauses. This is the underlying premise of our work with conditionals here, renaming the explicit *if* clause as "antecedent" to represent its logical role; we expand students' repertoires to increasingly implicit structures, including the imaginative imperative, '*suppose X [clause]*', non-finite clauses '*given X [noun group]*' and prepositional phrases '*in X [noun group]*' and many of the other examples pulled from authentic texts.

Regardless of the theoretical lenses or metalanguage used, conditionals are important because they represent logic and meaning making. Logic is the underpinning of how ideas are related and how they might impact one another, which in turn is central to the intellectual endeavour that is academic study. We cannot limit our students to individual lexical items and

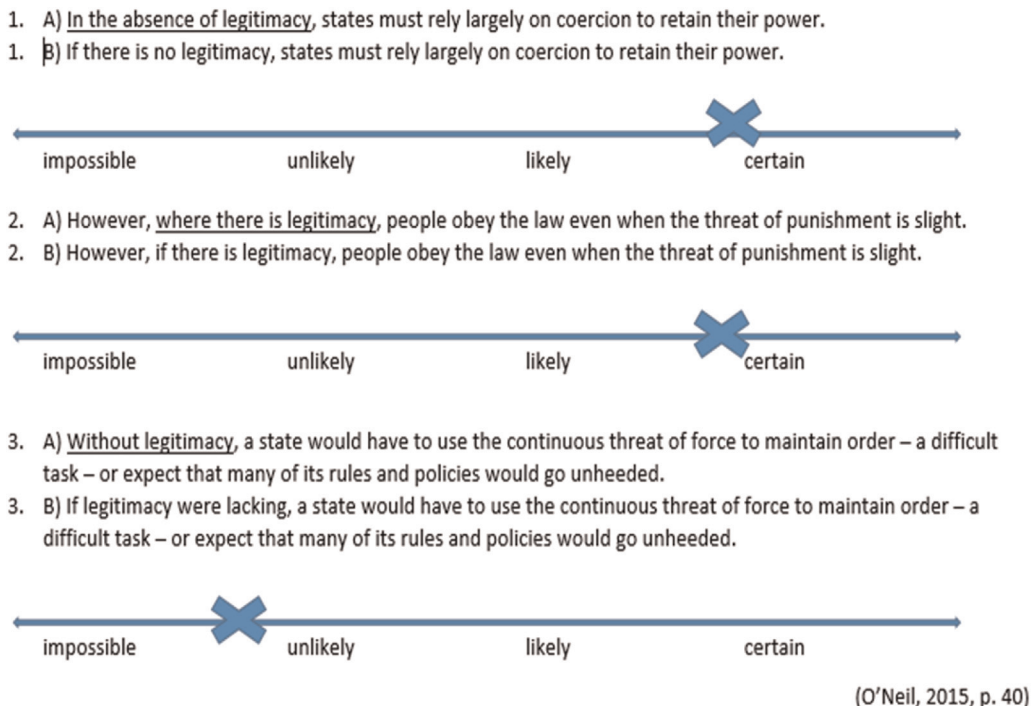


Fig. 1. Representation of probability.

grammar rules, presenting them as islands of meaning disconnected from larger meanings and relations. Nor can we rely exclusively on EAP textbooks to inform our pedagogy; it is our hope that instructors take a closer look at the academic texts our students need to work in and prioritize a focus on meaning to build realistic language lessons and learning opportunities.

CRedit authorship contribution statement

Jennifer Walsh Marr: Conceptualization, Writing – original draft. **Fatimah Mahmood:** Writing – original draft.

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