Emergent arguments: A functional approach to analyzing student challenges with the argument genre

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A B S T R A C T

University students across disciplines are often expected to write argumentative texts. However, many students, particularly L2 writers, struggle writing arguments and teachers may not be prepared to effectively scaffold argument writing. Despite its importance, argumentative writing is still an underresearched area in second language writing. In this paper, we use a Systemic Functional Linguistics conceptualization of argumentation to examine *emergent arguments*, texts that meet some of the expectations for argumentative writing but not others. We adapt Humphrey et al. (2010) 3 × 3 professional learning toolkit to analyze student writing from a first-year university history class. The 3 × 3 allows us to highlight these texts' mixed effectiveness in meeting genre expectations, based on how they control the resources of each of SFL's three metafunctions (ideational, interpersonal, and textual) at the levels of whole-text, paragraph, and sentence/clause. Our analysis of three emergent arguments shows how each exhibits challenges controlling the resources of a particular metafunction. Our application of the 3 × 3 provides a theoretical conceptualization of argumentative writing that can help teachers uncover subtle ways that student writing does and does not meet genre expectations.

1. Introduction

Argumentative writing is prominent in academic contexts, not only in writing courses but also in the disciplines (Hirvela, 2017; Lee & Deakin, 2016). When students reach university, they are expected to be able to write arguments using evidence from source texts (Christie & Derewianka, 2010). While this can be a reasonable expectation for many students who have been exposed to argumentative writing in high school, some students have not had such exposure. Many students at secondary and post-secondary levels, particularly L2 writers, struggle with writing arguments (see, e.g., de Oliveira, 2011; Hirvela, 2013, 2017; Miller, Mitchell, & Pessoa, 2014; Miller, Mitchell, & Pessoa, 2016; Miller & Pessoa, 2016; Mitchell, Miller, & Pessoa, 2016; Schleppegrell, 2006), and disciplinary instructors may not be equipped to teach argumentative writing. Despite argumentative writing's importance and the challenges it poses for students and instructors, it is still underresearched in L2 writing (Hirvela, 2017).

In this paper, we answer Hirvela's (2017) call for research on L2 argumentative writing by using a Systemic Functional Linguistics (SFL) framework to examine L2 student history writing. We draw on SFL because of its explicit focus on language and the tools it provides for studying and teaching school genres. From an SFL perspective, genre is a "staged, goal-oriented, social process" (Martin, 1992, p. 505). An SFL approach to genre investigates how language is used to make meaning to achieve the goals of a genre. SFL-based instruction focuses on making language choices explicit to scaffold students' production of different genres and has resulted in

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writing improvement, particularly for L2 writers (e.g., Dreyfus, Humphrey, Mahboob, & Martin, 2016; Humphrey & Macnaught, 2016).

Writing research in SFL offers a framework to conceptualize the argument genre in history and provides a detailed account of its linguistic features (see, e.g., Christie, 2012; Christie & Derewianka, 2010; Coffin, 2006; de Oliveira, 2011; Schleppegrell, 2004; , 2006). Building on this research, in the present study we propose the concept of *emergent arguments* to describe essays that have an overarching argumentative claim and some relevant support, but are otherwise mixed in their effectiveness. That is, they meet some but not all of the linguistic and genre expectations for argumentative writing. Our focus on emergent arguments arose from our genre coding process during a separate study (Miller et al., 2016), when we were challenged by how to classify student texts that included linguistic features of arguments as well as features more typical of other genres. Previous SFL research has established that it is "not unusual for texts to straddle the borders" between genres (Martin, 2002, p. 109), and that classifying such cases "require[s] a degree of compromise about the relevance and priority of parameters" (Coffin, 2006, pp. 45 − 46). However, rather than viewing these cases as a mere coding and classification dilemma, we argue that a more nuanced understanding of the variation that exists in how students do and do not meet genre expectations is of theoretical and pedagogical value.

We suggest that analysis of emergent arguments allows for an understanding of student writing that might be missed when the focus is exclusively on exemplars of a genre, or on differences between higher- and lower-graded essays. As argued by Pardoe (2000), explicit focus on less effective writing can provide valuable information about literacy practices. Pardoe notes that less effective writing requires "social explanation." In line with Pardoe, we argue that less effective writing also calls for *linguistic* explanation. This is important because research (e.g., Ivanic, 1996) has shown that students who produce less effective writing are usually not ignorant of what is expected, but often apply or over-apply their knowledge of academic writing in less effective ways. Thus, a greater understanding of emergent arguments can inform the design of language-focused pedagogic pathways to accelerate novice writers' progress in meeting linguistic and genre expectations of argumentative writing across disciplines.

In the present study, we investigate emergent arguments written by multilingual learners in a world history course at an American, English-medium university in the Middle East. To analyze emergent arguments, we draw on Humphrey, Martin, Dreyfus, and Mahboob (2010) 3 × 3 (see also, Dreyfus et al., 2016), an SFL-based professional learning toolkit for supporting instructors to frame the resources needed for a particular literary context. We have adapted the 3 × 3 as a framework to identify and characterize the linguistic features of university students' history essays. We use this framework to highlight particular ways that the essays exhibit mixed effectiveness in meeting expectations for the argument genre in the course.[1] We now turn to an overview of argumentative writing from the perspective of SFL, with a specific focus on history arguments and the challenges they create for novice writers.

2. Literature review

2.1. SFL descriptions of the argument genre in history

SFL studies of school history writing have found that its genres occur along a sequence of development (Coffin, 2006). Initially, students learn to write chronologically organized, story-like *recording* genres, such as *autobiographical* and *biographical recounts* (which retell a person's life), *historical recounts* (which retell events in chronological order), and *historical accounts* (which explain the reason for a specific chronology). Students then move toward *explaining* genres, which are organized by cause-and-effect relationships. Finally, students progress toward writing more abstract *argument* genres, which incorporate complex interrelationships among ideas, evaluations of information and perspectives, and attention to the possibility of multiple interpretations of a historical event.

In writing arguments, students must follow certain genre stages as they select, interpret, and evaluate facts, transforming knowledge to create meaning (Coffin, 2006; Eggins, Wignell, & Martin, 1993; Martin, Maton, & Matruglio, 2010). Although expert history writers skillfully perform this knowledge transformation, novice writers who are progressing towards the argument genre often engage more in knowledge *telling* by "listing… document content as discrete information bits" without abstraction and evaluation (McCarthy Young & Leinhardt, 1998).

Table 1 shows the stages and some key linguistic features of the argument genre.[2] To meet the expectations of argument genres, writers must make "appropriate linguistic choices [that] contribute to the presentation of content, to the projection of a stance, and to the construction of a well-organized text" (Schleppegrell, 2006, p. 136). The projection of a stance is particularly important to argumentative writing. An argumentative stance is realized effectively through consistent use of evaluative and interpersonal resources to take a position and project an anticipated position onto the reader; writers must guide the reader toward their established position while demonstrating an awareness of alternative perpsectives.

A key distinction between non-argument and argument genres has to do with whether the writer acknowledges multiple perspectives via interpersonal strategies. In non-argument genres, the focus is on providing "relatively categorical explanations of historical phenomena" (Coffin, 2006, p. 77), and this is often realized with linguistic resources that present information as factual. For example, explanations foreground cause-and-effect relations as the organizing principle, and these causes or effects are "evaluated, but presented as factual, rather than as propositions that have to be argued for" (p. 71). In argument genres, writers "hold

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[1] As we describe in detail in Section 3, the SFL-based understanding of history arguments that informs our analysis is consistent with the professor's writing expectations in the course under study.

[2] Coffin (2006) identifies three argumentative genres in history writing: exposition (deductive organization), discussion (inductive organization), and challenge (refutation of another author's interpretation). Here, we describe exposition because deductive argumentation was expected by the history professor and because it is one of the most common written genres across university disciplines (Nesi & Gardner, 2012).

Table 1
Features of the argument genre in history.

Social Purpose	Stages	Key Language Features
To put forward a point of view or argument	1 (Background) 2 Thesis 3 Supporting Arguments 4 Reinforcement of thesis	Evaluates and comments on historical information, supported by evidence; holds interpretations of history as tentative (not factual) that have to be argued for; resources of modality used to set up or argue claims; aligns reader to the position advanced in the thesis via interpersonal strategies; logical sequence

Note: Based on Coffin (2006) and Schleppegrell (2004). Genre stages in parentheses are optional.

interpretations of history as tentative" (Coffin, 2006, p. 76), and therefore use interpersonal linguistic resources to indicate an overall stance and guide the reader towards accepting their evaluative position. Thus, there is a substantial difference in interpersonal meaning between stating, "One important effect is…," and a construction like, "This effect is important *because*…" In the former, the writer places end focus on the cause-and-effect relationship with no anticipated resistance from the reader, whereas in the latter, the writer constructs the reader as someone who needs to be persuaded by placing end focus on justifying the effect's importance.

While expert writers often employ a wide variety of linguistic resources in crafting argumentative writing, by, for example, embedding narrative and explanation within a larger argument (Woodward-Kron, 2005), they use these combinations of resources strategically to serve the larger argument. Therefore, to distinguish between types of resources that are more or less typical of explanations or arguments is not to say that such resources are exclusive to a particular genre or disregard the existence of macro-genres. However, student writers who lack experience or expertise with the argument genre may deploy narrative or explaining resources in ways that do not coherently advance their argument (Humphrey & Economou, 2015).

2.2. Challenges producing arguments

According to Christie (2002), by the secondary school level, "the *successful writer* [can] handle the building of generalization, abstraction, argument, and reflection on experience that advanced literacy seems to require" (p. 46, emphasis added). However, not all students are *successful writers* when they arrive to university; many, especially L2 writers, lack exposure in secondary school to advanced literacy practices in English that provide them with the academic discourse or curricular content needed for success in college (de Oliveira, 2011). Even with explicit instruction, not all students develop in the same way as they draw on different linguistic resources that depend on their prior experiences (Achugar & Carpenter, 2014). Thus, while some students may be able to meet the expectations of advanced genres such as arguments when they arrive to university, others may not (Miller et al., 2014, 2016; Schleppegrell, 2006).

SFL-informed research has identified various challenges students face in writing arguments in history. de Oliveira (2011) compares successful student history essays with essays that "need improvement," arguing that "many students have not yet developed the grammatical and lexical features that enable the presentation of an organized and structured essay" (p. 130). de Oliveira also reports that students face challenges answering the prompt, staying on topic, following expected organization, effectively using academic language, elaborating on their ideas, creating effective coherence and cohesion, and using interpersonal resources to evaluate or acknowledge multiple interpretations of the past, a feature Coffin (2006) emphasizes as highly valued in argumentative history writing. Similarly, in our own research, we report on students' challenges answering the prompt with an argument and effectively using interpersonal resources to strategically manage multiple perspectives on an issue and consistently position the reader (Miller et al., 2014, 2016).

Schleppegrell's (2006) analysis of two essays that had mixed effectiveness shows how one student's essay, on one hand, met the organizational expectations of argument by using nominal expressions to structure the content, but lacked an argumentative stance due to the lack of modality and consequential relationships to tie the ideas together and advance the argument. The second student's essay incorporated some features of argument, such as using modality and markers of consequential relationships to take a stance, but had an emergent structure that is less in line with genre expectations. Recognizing that students draw on different linguistic resources to make meaning as they try to meet genre expectations, Schleppegrell argues for the need to "identify the language resources that teachers and students can focus on as they work on abstract and complex texts and tasks" (p. 144) such as arguments.

2.3. The present study

We build on this previous work by analyzing the features of university students' history essays that did not fully meet the expectations of the argument genre. We extend previous research in three ways. First, while SFL researchers have extensively studied history arguments, their focus has largely been on arguments at the secondary school level; our work contributes to the limited research on history arguments at the university level. Second, we add to the limited research that has focused on essays that are mixed in their effectiveness (e.g., de Oliveira, 2011; Schleppegrell, 2006), highlighting how students draw on linguistic resources that such research has not discussed.

Lastly, we use an SFL framework (the 3 × 3; Humphrey et al., 2010) that we have adapted specifically to analyze history arguments. The 3 × 3 allows for analysis of student texts according to multiple meaning systems and levels of text. Humphrey et al.'s

3 × 3 is a professional learning 'toolkit' to assist instructors in describing key linguistic features of particular academic genres by considering contributions from the three metafunctions of language. In SFL, these metafunctions are: *ideational* (including resources for representing and expanding specialized and formal knowledge of the discipline area), *interpersonal* (including resources for convincing the reader in critical yet authoritative ways) and *textual* (including resources for organizing clearly scaffolded abstract texts). The 3 × 3 describes the linguistic resources needed to meet genre expectations according to each of these metafunctions, from the level of the whole text, to its phases (roughly equivalent to paragraphs), to its clauses and sentences (Humphrey, 2013). Responding to Hirvela's (2017) call for further conceptualizations of argumentative writing, we suggest that the resources embodied in our 3 × 3 framework provide a theoretical conceptualization of argumentative writing that can help teachers consider subtle ways that student writing does and does not meet genre expectations.

In the next section, we discuss our data selection and describe how we used the 3 × 3 to analyze student writing.

3. Methods

3.1. Context

Our data are drawn from a larger investigation of academic literacy development at a branch campus of an American university in the Middle East where most of the students have English as an additional language. All courses at this institution are conducted in English, and the curriculum largely follows that of the main campus in the U.S. In the present study,[3] we focus on writing in a first-year undergraduate world history course, which was a one-semester overview of major historical milestones from ancient Babylon to modern-day globalization. We have documented writing in this course since 2009 and have established a strong collaborative relationship with the professor through interviews about his writing expectations and students' challenges, and think-aloud protocols about valued features of high- and low-graded essays. These interactions, together with our reading of the professor's feedback on graded essays, have helped us to clearly understand the writing expectations in this course and students' challenges meeting those expectations. We have drawn on this contextual knowledge in our previous SFL-based analyses of history essays from this professor's courses (see Miller et al., 2014; , 2016; Miller and Pessoa, 2016; Mitchell et al., 2016) and shared our findings with the professor. This resulted in him inviting us to take these findings back into his classrooms in a series of writing workshops where we used materials based on our 3 × 3 framework for history arguments (see Pessoa, 2017; Pessoa, Mitchell, & Reilly, 2018 in press). During these workshops, the history professor has commented to his students several times that we (the authors), "know more about what he wants in these essays than he does," which indicates that our descriptions of the linguistic features of the argument genre comport with his expectations.

In this course, students are expected to write six short argumentative essays (approximately 300–500 words) using a source text and in response to one of three to five writing prompts proposed by the instructor. Every semester, he provides written feedback on students' essays when he grades them, and provides some feedback via email on (non-mandatory) drafts on a first-come, first-served basis. The professor typically dedicates one class period at the beginning of the semester to explicating his expectations for the essays, providing a sample paper,[4] and discussing the rubric with students. His rubric gives descriptions of "points awarded for" and "points deducted for" in four categories: Argument (30%), Evidence (30%), Clarity (20%), and Synthesis and Analysis (20%). According to these descriptions, the professor values essays that are evidence-based and "analytical" rather than "descriptive" or "narrative," and essays that are have a "consistent overall organization" with a "clearly stated thesis statement" and use of "strong topic sentences" that "link the evidence in the paragraph with the essay's overall topic." The expectations expressed in the professor's rubric are in line with the stages and linguistic features of arguments in history as discussed by Coffin (2006), but do not explicitly make reference to the linguistic features needed to meet these expectations. In our research on writing in this professor's courses, we have observed that many students who come to university with limited experience writing academic texts in English face challenges meeting these expectations and respond with non-arguments (Miller et al., 2016), inconsistent arguments (Miller et al., 2014), or emergent arguments.

3.2. Data source

The motivation for this analysis emerged during a separate project (see Miller et al., 2016) in which we found that although students were expected to write arguments, many produced explanations, accounts, or reports. While the genre of 83 of the essays[5] we coded was easily identifiable, we were challenged by how to code 16 essays. They had an overarching argumentative thesis and some valued features of argument, but lacked other important features. These are the essays we categorize as emergent arguments. Rather than merely creating a coding dilemma, these essays present an opportunity to better understand the subtleties of student writing. In the results section, we present our analysis of three emergent arguments that represent the clearest examples of the different patterns we found in the set of 16.

These three emergent arguments were written by students who represent the diversity of the institution in terms of backgrounds

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[3] All study procedures were approved by the university's institutional review board. All participants gave informed consent.

[4] Since we began our collaboration with this professor, he has changed the sample essay that he provides the students. The updated sample, from our analytical perspective, is a much stronger exemplar of the argument genre and its valued features.

[5] This data set comprised the first and second essays written by students.

and skills of a typical first-year student population. Text 1 was written by Fadel,[6] a Bangladeshi who was raised in [country of institution] and attended an English-medium Indian system school that focused on math and science with limited emphasis on academic writing. Thus, although Fadel came to university well prepared to undertake studies in his major, computer science, he faced some challenges with writing at the beginning of his studies. Text 2 was written by Leila, a Jordanian business administration major who was raised in [country of institution] and attended a mostly Arabic-medium school. Although Leila was quite fluent in spoken English, she struggled in the transition to college given her limited experience with academic reading and writing in English. Text 3 was written by Abu, a national of [country of institution] and a business administration major. After being schooled mostly in Arabic, Abu attended a one year English-medium college preparation program. Although this program helped Abu prepare for university and better understand college writing expectations, he faced motivation issues partly due to his underpreparedness in math and transferred to another institution after one year.

These students produced the three emergent arguments under study at the beginning of their first semester in college (Texts 1 and 2 were Fadel and Leila's first essay of the semester, Text 3 was Abu's second). Thus, these texts are indicative of the students' level of preparedness to write academically in English upon arrival to university.[7] Our objective is not to expose these students as struggling writers; they could hardly be expected to begin the semester writing exemplars of the genre, and each of their essays has certain strengths. Rather, our objective is to demonstrate an application of the 3 × 3 framework that highlights subtle ways that students meet and do not meet genre expectations, and how the presence or absence of important linguistic features of history arguments may impact a text's effectiveness.

3.3. Analytical framework

Our analysis draws on an understanding of academic genres consistent with what has been outlined in the development of the 3 × 3 toolkit (Dreyfus et al., 2016; Humphrey et al., 2010). The 3 × 3 describes key linguistic features of disciplinary academic genres by focusing on the ideational, interpersonal, and textual meanings of language, and taking into consideration how these meanings are realized linguistically at the whole text, paragraph, and sentence and clause levels. Briefly, when examining a text for ideational meaning, analysis focuses on resources for constructing specialized and formal knowledge of the discipline. Analysis of interpersonal meaning focuses on resources for convincing the reader in critical yet authoritative ways. Analysis of textual meaning focuses on resources for organizing clearly scaffolded texts. From an SFL perspective, "any stretch of language functions simulta-neously to enact three kinds of meaning" (i.e., ideational, interpersonal, and textual) (Dreyfus et al., 2016, p. 109). Thus, although the metafunctions are separated in the 3 × 3, "in practical terms, resources from different metafunctions and levels are typically combined to explore how meanings are instantiated in a particular text or set of texts" (Dreyfus et al., 2016, p. 111).

We adapted the 3 × 3, which describes academic writing in general, to history arguments. This process involved using prior research on the argument genre in history by SFL scholars (Christie, 2012; Christie and Derewianka, 2010; Coffin, 2006; de Oliveira, 2011; Schleppegrell, 2004; , 2006) and our own ethnographic knowledge of the history course under study, knowledge which is based on our interviews with students and the professor, analysis of course materials, and our research findings (Miller et al., 2014; , 2016; Miller and Pessoa, 2016; Mitchell et al., 2016). In other words, we aligned research-based descriptions of linguistic resources of history arguments to the descriptions provided by Humphrey et al. (2010), and we did so with the aim that our adapted 3 × 3 would be consistent with the history professor's expectations for argumentative writing in the course. Specifically, we began with the history professor's rubric, which embodies his expectations, and mapped our SFL-based understanding of the genre to it by identifying the linguistic resources needed to meet the professor's assignment expectations. For example, the professor's rubric awards points for "evidence clearly related to thesis statement" and "clear explanation, thoughout the paper, of how evidence presented is relevant to the thesis." In this case, to meet these expectations, students can use interpersonal resources, such as attribute moves to acknowledge the source text while introducing evidence from it (e.g., *the author argues that…*) and endorse moves to show how the evidence presented supports the claim the student is making (e.g, *this means that…*). Therefore, our analysis of how effectively students meet the expectations of the argument genre is grounded both in widely held understandings of linguistic features of history arguments from previous SFL research, and our particular understandings of the writing expectations in this history professor's course. From our perspective, these two sets of expectations for the argument genre in history are complementary and overlapping, with the 3 × 3 providing more detailed descriptions of linguistic resources that are important for achieving the goals embedded in the professor's rubric.

We use the 3 × 3 to highlight particular ways that the essays are mixed in how effectively they meet genre expectations. Our 3 × 3 describes the linguistic resources needed to meet genre expectations by individually considering the three SFL metafunctions of language (the three rows of the matrix) at the whole text, paragraph, and the sentence and clause levels (the three columns), as seen in Table 2. Consistent with previous applications of the 3 × 3 (e.g., Humphrey & Hao, 2013; Humphrey & Macnaught,2016), we recontextualized some of the SFL terminology using bridging metalanguage for ease of use and explanation. In our analysis, we were most concerned with patterns of language use and how the lexico-grammatical resources at the sentence and clause levels help writers realize discourse semantic meanings at the paragraph and whole text levels in order to meet genre expectations (Dreyfus et al., 2016). As argued by Ryshina-Pankova (2014), quantity of linguistic resources deployed is not nearly as important as how

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[6] All names are pseudonyms.

[7] While the term "emergent" does imply a developmental perspective, the writing development of these three student authors is beyond the scope of the present study. However, we have investigated writing development in this course (Mitchell et al., 2016; Mitchell & Pessoa, 2017)

Table 2
3 × 3 Framework for the analysis of arguments in history.

	Whole text	Paragraph	Sentences & Clause
Ideational	i The text is grounded in accurate and relevant knowledge from the source text.	i. The text uses a clear analytical framework (overarching claim with sub-claims) to present information according to demands of prompt.	i. Specialized/technical vocabulary is used to characterize an overarching claim.
	ii The text is grounded in knowledge and language from the discipline.	ii Related topics are grouped as distinct supporting claims.	ii Nominal expressions are used in the introduction and in the topic sentences (hyper Themes in SFL terminology) to create a taxonomy for the sub-claims.
	iii Ideas are developed through discipline-specific topics and subtopics to form an analytical framework.	iii Information related to one topic is expanded as the text integrates accurate, relevant and sufficient content from the source text.	iii Vocabulary is discipline-specific and formal.
	iv The answer to the prompt is consistent from beginning to end.	iv Information is expanded within paragraphs in terms of general to specific, point to elaboration, evidence to interpretation; claim to evaluation)	iv Well-structured sentences, causal and constrasting conjuctions, and text connectives expand and link ideas logically.
		v Information is related in logical relationships to further a claim (e.g. cause, consequence, comparison)	
		vi Examples and quotes are logically integrated in the text to support claims.	
Interpersonal	i. The text answers the prompt with a defendable overarching proposition that shows interpretations of history as tentative (not factual) and as something that has to be argued for.	i. The text includes and controls external voices (e.g., the source text) to develop points, include evidence, and show how the evidence supports the claims.	i. The text uses modality to set up or argue claims and to show interpretations of history as tentative.
	ii The proposition is reinforced, justified, and defended to persuade the reader that a position is valid.	ii Patterns of engagement develop the writer's stance within and across paragraphs o guide the reader towards the overarching claim.	ii The text uses expanding resources (Attribute) to bring in the source text. (e.g., *The author argues…According to the author*)
	iii The text moves its points or positions forward across the stages using the source text as evidence for claims.	iii Patterns of evaluation develop the writers' stance within and across paragraphs.	iii The text uses contracting resources such as:
	iv The text consistently guides the reader towards the overarching claim.		• Endorsement: to show how the cited material supports the claims, and to draw and support conclusions (e.g., *This means/This shows that/ This evidence is indicative of…*)
			• Concede-counter moves: to show awareness of a different perspective and bring the reader towards the writer's perspective (*although this…that*)
			• Counter moves: to reveal an imagined position of the reader and align the reader to the writer (e.g., *even, just, only, although*)
			• Justification: to provide reasons for claims (e.g., *this obstacle is important because…*)
			iv Objective metaphors are used to negotiate opinions and recommendations (e.g., It gives the impression rather than It makes you feel.)
Textual	i. The text previews the claims to be discussed in the introduction, includes supporting arguments in the body paragraphs, reiterates the points in the conclusion.	i. The language and order of sub-claims in the body paragraphs matches the preview in the introduction.	i. Nominal expressions and referring words are used to pack, signal or foreground information, and track ideas.
	ii The text creates coherence by predicting, signposting, and scaffolding ideas.	ii Sub-claims are placed at the beginning of the paragraphs.	ii Choices of Theme predict the topic or focus of the sentence.
		iii Paragraphs are developed in focus from general and abstract in "packed" topic sentences, to specific and concrete in "unpacked" sentences.	

Table 2 (*continued*)

Whole text	Paragraph	Sentences & Clause
	iv There is a logical flow of information within and across paragraphs through the use of cohesive resources (e.g., reference, substitution, repetition), internal conjunctions (e.g., theme/new, transitions), and consequential relationships (e.g., thus).	

Note: Adapted from Humphrey et al. (2010) and Dreyfus et al. (2016).

resources are varied and woven together.

Overall, with regard to ideational meanings, we were concerned with students' ability to move through clear stages to answer the prompt with accurate, relevant, and sufficient content from the source text(s). To do so, students have to demonstrate an awareness of the discipline-specific and formal vocabulary of "doing history" (Coffin, 2000, p.12) to develop topics and subtopics from an analytical framework composed of the overarching claim and sub-claims. This information should be presented logically and consistently to further the claim in all stages of the argument, moving from general to specific relationships in the paragraphs and logically integrating qutoes from the source text.

With regard to interpersonal meanings, we focused on the linguistic resources that realize an argumentative stance, including their effectiveness in answering the prompt with a defendable overarching proposition that is reinforced and defended with evidence from the source text to persuade the reader. Achieving an effective argumentative stance also involves maintaining consistent patterns of evaluation, meanings that accumulate over the entire student text and combine with ideational and textual resources (Macken-Horarik, 2003). Thus, we paid particular attention to patterns of evaluation that "occur at textually prominent places in the text" − in the introduction, first and final sentences of the paragraph, and the conclusion (Dreyfus et al., 2016, p.129).

Our analysis of interpersonal meanings also focused on students' ability to incorporate the source text, acknowledge multiple perspectives, and guide the reader towards accepting their perspective. For this, we drew heavily on the engagement framework from the appraisal system (Martin & White, 2005). Our analysis focused on patterns of engagement used to guide the reader toward the overarching claim. These include the incorporation of the source text: "expanding the dialogic space" by acknowledging sources and their authors (*According to the author*) and quoting from them, and then "contracting the dialogic space" by explaining the quotes as they relate to the writer's argument (*this shows that*) and thus bringing the reader closer to the writer's perspective. We also examined uses of modality that acknowledge the tentative nature of historical interpretation, countering resources that reveal how the writer is positioning the reader (e.g., *not, even, just*), and justification resources that signal reasons for claims (e.g., *this obstacle is important because*...).

With regard to textual meanings, we were most concerned with the organization of the text and its effectiveness in following, predicting, signposting, and scaffolding the writer's ideas. This is done though use of nominal expressions to pack, signal, foreground, and track ideas, and other cohesive resources that move paragraphs logically from general and abstract, to specific and concrete in focus.

We analyzed the 16 emergent arguments using the 3 × 3 framework, identifying how student texts did and did not meet genre expectations through use of linguistic resources to realize ideational, interpersonal, and textual meanings. In our analysis, our intention is not to judge these essays or their authors by suggesting that the students should have produced different writing as novice writers in their first semester. Rather, we use the 3 × 3 to explore how student writers of emergent arguments use linguistic resources effectively, with mixed effectiveness, and with limited effectiveness. Thus, our detailed linguistic anlaysis not only highlights how these emergent arguments fail to meet genre expectations, but also important ways that they use language effectively which may not be evident at first glance.

4. Results

Each of the three emergent arguments responds to a prompt with an argumentative overarching claim, but shows mixed effectiveness in controlling the resources of a particular metafunction to meet linguistic and genre expectations. Text 1 shows some success in predicting the key points in the argument (textual metafunction) and in creating an argumentative stance and incorporating the source text (interpersonal metafunction), but is less effective in controlling ideational resources: the argument is ineffectively supported and has inconsistent assertions in the Thesis and Reinforcement stages. Text 2 shows greater success in using interpersonal resources to move the reader toward the thesis, but is less effective in controlling textual resources: it does not effectively preview the key points or create cohesive ties in key places. The author of Text 3 shows more control in constructing an argument that is ideationally and textually coherent at the level of the whole text, but controls interpersonal resources less effectively: the text relies on factual language that emphasizes causal relationships, which is more typical of the explanation genre than argument. The results are summarized in Fig. 1. Below, we present each text, followed by our analysis.
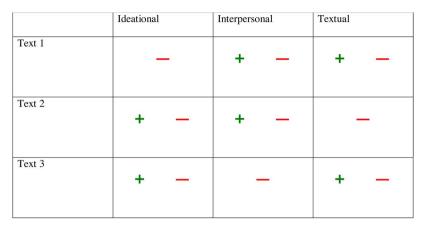
	Ideational	Interpersonal	Textual
Text 1	—	+ —	+ —
Text 2	+ —	+ —	—
Text 3	+ —	—	+ —

Fig. 1. Summary of control of linguistic resources in the three emergent arguments.

4.1. Text 1: challenges controlling ideational resources

What kinds of activities were important to the Babylonian economy?

P1 Hammurabi was the sixth king of Babylon and during his time around 1700 BCE, he followed a strict monarchy and was a just ruler. During this time of the Middle Bronze Age, due to its location in the Mesopotamian region, the economy of Babylon was essentially an agricultural economy and most of the people were engaged in activities such as agriculture, animal husbandry and foreign trade.

P2 The domestic animals were considered an important resource of the people as they provided food (meat and milk), clothing (skin) and acted as beasts of burden for the agricultural activities especially if they were owned by the religious places or the palace as can be inferred from their extremely high cost of punishment in the form of compensation for stealing them [Code no.8]. Also Hammurabi introduced the first (partially crude) form of insurance that is the community will compensate for the goods stolen of the victim who was robbed. [Code no.23] And also the concept of "blood money" that the community will pay a specified amount to the relatives of a person who gets killed [Code no. 24].

P3 Irrigation was a very developed concept during their time as they already had the knowledge to build dams on rivers and form canals to direct water to their fields and thus improve crop productivity and these dams were considered an important asset for the economy and failure of their maintenance led to strict punishment.[Code no.53]. Taking loans was another practice which many people especially farmers did when they needed to buy agricultural implements and these loans were recorded on debt tablets. Speaking of which, the artisans were an important asset in the country as they were responsible for making and carving stone tablets which acted like official documents of important sayings, debts and even the law codes promulgated by Hammurabi were written on a larger type of stone tablet called a stele.

P4 Women rights were a very integral part of the society and Hammurabi gave a number of rules empowering women based on their marital status. Even though social evils such as the concept of dowry were prevalent, it was possible for the wife to get her dowry back from her husband if he wanted to separate (get a "divorce") from her [Code no. 137/138].

P5 Violence among people was very frowned upon and the punishment had a "tit for tat" philosophy behind them which accounted for some of the harsh punishment rules. [Code no. 196/197/200]. There were also a number of people engaged in professions such as medicine (physicians) and construction (builders) and Hammurabi's Code defines specific punishment for each type of crime they could commit in their profession [Code No. 215/218/229/230].

P6 Thus, the economy of Babylon was more like that of an "urban" civilization with different people engaged in primary as well as secondary activities.

4.1.1. Textual: mixed effectiveness

Text 1 is most effective in its control of resources of the textual metafunction. The student is aware of the need to predict the key points of his argument in P1 ("agriculture, animal husbandry, and foreign trade") through "nominal elements that name points" (Schleppegrell, 2006, p. 7). In the topic sentences of two of the Supporting Argument paragraphs, the student creates cohesive ties back to this preview with signposting that returns to its nominal elements (P2: domestic animals → animal husbandry; P3: crop productivity → agriculture). Furthermore, he places supporting claims at the beginning of the Supporting Argument paragraphs.

However, there is also evidence of some less effective deployment of textual resources, as the Supporting Argument stages do not completely follow what P1 predicted: Text 1's global coherence is disrupted because the nominal element *foreign trade* never appears in the Supporting Argument stages, and the topic sentences of P3 and P4 introduce information not previewed in P1; Text 1's global cohesion is disrupted because the nominal element *animal husbandry* is the focus of the first Supporting Argument stage (P2), but is previewed second in P1. At the paragraph level, the student does not effectively control the logical flow of information through the use of cohesive resources. In P2 information is presented through additive relationships ("Also"; "And also"), more typical of

explanation genres, rather than logical relationships. In P3 there is a lack of relationship between the topic sentence about dams and punishments to the Themes of the other clauses ("Taking loans"; "Speaking of which, the artisans").

4.1.2. Interpersonal: mixed effectiveness

Text 1 exhibits some effective control of interpersonal resources. At the whole text level, the Thesis is effective because it is a relevant answer to the prompt that sets up the paper for a defendable argument; the student argues for a particular interpretation of the economy ("agricultural") based on the source text, and the word "essentially" frames the argument in terms of degree (which Coffin (2006) highlights as a valuable strategy for crafting an argumentative thesis). The student makes explicit reference to the source text and cites it in the Supporting Argument stages.

At the paragraph level, the student includes a claim and supporting reason in P2′s topic sentence: he presents the proposition as one that has to be argued for ("The domestic animals were considered an important resource of the people *as* they provided…"), not as factual (e.g., *one important resource was…*), a distinction Coffin (2006) uses to set arguments apart from explanation genres. Essentially the student is arguing that the code's severe punishments for livestock theft are evidence that the economy is agricultural because of livestock's importance to agriculture. Furthermore, by explaining that this claim and reason "*can be inferred* from" the laws that the student supplies as evidence, he "acknowledges a context of heteroglossia… in which alternative interpretations and points of view operate" (Coffin, 2006, p. 85), which is a vital aspect of argumentative writing in history.

However, there is also evidence of less effective control of interpersonal resources. The inclusion of evidence from the source text would have been more effective with direct quotations, couched in Attribute[8] (e.g., *According to the Code*) and Endorse (e.g., *This law shows…*) moves (Miller et al., 2014; see Table 2), rather than simply indexing the relevant code through parenthetical references (e.g., "Also Hammurabi introduced the first… *[Code no.23]*"). Finally, in contrast to P2, where the student presents the claim in the topic sentence as one that has to be argued for, in P3 he creates an additive relationship between the claim and reason ("*and* failure of their maintenance led to strict punishment"). The student does not do enough in P3 to explicitly connect his discussion of irrigation and the penalties for not maintaining dams to his Thesis about the agricultural economy.

4.1.3. Ideational: limited effectiveness

Text 1 is least effective in its control of ideational resources. This is most readily apparent in the inconsistency between the Thesis and Reinforcement stages (see Table 1). Although the student shows an awareness of the need for a Reinforcement stage, its content contradicts the Thesis, asserting that the civilization was *urban* rather than *agricultural*, thereby undermining the argument. Similarly, Text 1′s analytical framework exhibits a confusing logical relationship between the thesis and preview of Supporting Argument stages in P1: *agriculture* is set up as evidence for the claim that Babylon had an *agricultural economy*. In other words, what is essentially the same nominal element appears at both levels of the analytical framework's part-whole relationship. Furthermore, *agriculture* is relevant to both P2 and P3, further disrupting the logic of the analytical framework.

Text 1 is also less effective in its control of ideational resources because a substantial amount of its content is not relevant to developing the Thesis. The content of P4 (women's rights) and P5 (strict punishments) does not further the argument about the agricultural economy. Even within the two Supporting Argument paragraphs that present relevant support for the Thesis, a substantial amount of content does not further the main argument. For example, P2 begins with a long sentence giving a relevant claim and support (punishments for stealing animals indicate their importance to the economy), but what follows are a sentence about insurance and a sentence about "blood money", neither of which clearly supports the Thesis. In P3, the first sentence presents relevant information, but the remainder of the paragraph shifts in focus to a tangential discussion about how information was recorded on tablets.

4.2. Text 2: challenges controlling textual resources

What sort of picture do you get about the treatment of Babylonian women?

P1 Hammurabi's code is quite interesting. Some of them I found weird but some were actually meaningful. The codes that are related to women truly show the life difference between women these days, and Babylon women.

P2 The code makes you feel like Babylon women were really pressured and controlled by men. The code shows that they didn't have much freedom and everything they do has a punishment by law. Those laws applied to daughters, wives and even girlfriends.

P3 One of the laws stated that if a nun enters or opens a bar, she should be burnt to death. This shows the cruelty of the punishments for the Hammurabi code. Burning a woman to death just for entering a bar is such an awful crime itself. Some other rules show cruelty as well, such as the law that states that if a woman cheated on her husband she shall be tied and thrown into water. All of those laws show that women were treated really badly and their punishments were very severe.

P4 Some laws actually protected women's rights somehow. There is a law that states that if a woman separates with her husband and has a child from him, she is given half his properties and she gets a share equal to his son. It also stated that the woman can then marry the man she wants. This shows more liberty for women than the other laws that were stated. Another law that protects women is the one that stated: "if anyone be guilty of incest with his daughter, he shall be driven from the place" (exiled).

P5 I found the law that says we should kill the daughter if her mother is dead, very unjustified. It shows no justice towards women. They were not being treated with justice and they were being killed for no reason at all.

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[8] We use capital letters to indicate resources within the Engagement framework (Martin & White, 2005).

P6 As a conclusion of all the laws that mentioned women in Hammurabi's code, I concluded that women were treated with a strict and cruel manner. They were punished for every mistake they do, and sometimes without even making mistakes. They were treated in an uncivilized way and they were punished by either getting burnt to death or being thrown into the water. Babylon women were treated in a way that is un-acceptable in our current society.

4.2.1. Interpersonal: mixed effectiveness

Text 2 is most effective in its control of interpersonal resources. The student has a Thesis that frames the paper in terms of degree with a defendable claim ("The code shows that they did not have *much* freedom and everything they do is punishable by law") that is supported by evidence from the source text.

The student creates patterns of Engagement resources to develop a consistent stance and guide the reader towards the Thesis. For example, she repeatedly sets up evidence through Attribute moves (P3: "One of the laws stated"), followed by Endorse moves that explain this evidence while also reinforcing the evaluation of the treatment of women found in the Thesis (e.g., P3: "this *shows* the *cruelty* of the punishments"; "All of those laws *show* that women were treated *really badly* and their punishments were *very severe*"). A second way the student uses engagement resources to develop a stance is by consistently positioning the reader as someone who would agree that these punishments are cruel. For example, she uses counter-expectational adjuncts in P3 ("*just* for entering a bar") and P6 ("sometimes without *even* making mistakes") to align the reader to her by suggesting they have the same (surprised) reaction to the extreme circumstances of punishments for women. The student also uses patterns of evaluation to develop a stance throughout the essay. She provides consistent negative evaluations in every paragraph except P4 (e.g., P2: "women were really pressured"; P3: "cruelty of the punishments"; P5: "very unjustified"; P6: "strict and cruel"). In P4, where she tempers her claim with a concession to an opposing view, she maintains a consistent stance through engagement and evaluative resources. Her use of the counter-ex-pectational *actually* in the topic sentence suggests that the protective laws are surprising given the overall treatment of women. Her Thesis created space for this concession ("women did not have *much* freedom"), and her Endorse move to explain the evidence in P4 provides an evaluation ("This shows *more liberty*") that is consistent with her Thesis. The inclusion of this concession is also important because it demonstrates an awareness of the importance of considering multiple sides of an argument.

However, there is also some less effective deployment of interpersonal resources. The student does not completely control the external voice of the source text, given that she only includes one direct quotation and does not provide specific citations for the laws she mentions. In the one instance where she includes a direct quote (P4), it ends the paragraph, without an Endorse move to explicate its significance to the argument. Finally, the student does not always use objective metaphors to negotiate opinions, but chooses instead to include personal reactions to the source text. This is most obvious in P1 ("Some of them I found weird"). This choice leaves the reader with the initial impression that the essay will not be written in an academic register, and similar choices are also seen in P2 ("the code makes you feel") and P5 ("I found the law that says").[9]

4.2.2. Ideational: mixed effectiveness

Text 2 exhibits some effective control of ideational resources. It is grounded in knowledge from the source text, evident in how the student keeps the laws in focus throughout. It is consistent from beginning to end, including its Thesis (P2), Supporting Argument (P3, P5), and Reinforcement (P6) stages that make similar negative evaluations of the laws, and its concession (P4) that makes a guarded but positive evaluation that was suggested by the wording of the Thesis.

However, there is also evidence of less effective control of ideational resources. Despite the consistent focus across the stages, Text 2 does not move completely clearly through the stages to achieve its purpose. The Background stage (P1) is unconventional in that it provides context based on the student's reaction to the text rather than background information about the text itself (e.g., "Some of them I found weird"). In the Thesis stage (P2), the student does not establish a clear analytical framework to present information according to the demands of the prompt; the lack of clear, distinct supporting claims damages the argument's overall effectiveness. Finally, the Supporting Argument stages would be more effective if they had more content in support of the Thesis. P5 is particularly underdeveloped in terms of its content, which means that P3 is the only Supporting Argument with adequate support for the Thesis. Since the other paragraph dedicated to explicating the Thesis focuses on concessions to an opposing view (P4), the reader is presented with evidence for and against the Thesis in nearly equal weight.

4.2.3. Textual: limited effectiveness

Text 2 is least effective in its control of textual resources. The Thesis appears in P2, which is not optimal in terms of reader expectations,[10] and this stage does not create a hierarchy with nominal elements to preview the structure of the essay. While the Reinforcement is ideationally consistent with the Thesis, it is slightly different ("I concluded that women were treated with a strict and cruel manner" instead of "did not have much freedom"). This discrepancy harms the text's global coherence, not its logic, so it is not as significant as the ideational mismatch found in these stages in Text 1. However, what is noticeable in Text 2 is that the cohesive ties that the student creates in P3 ("cruelty; 'strict'; "severe") are more tightly linked with the Reinforcement than the Thesis, while the tie she creates in P4 ("liberty") is more tightly linked to the Thesis. In P5, the focus is on *justice*, which is a related term but does

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[9] The prompt does directly address the student, and the use of the subjective pronoun "I" in Pronounce moves may not be as problematic in Thesis and Reinforcement stages as in Supporting Argument stages (Miller et al., 2014).

[10] The professor explicitly states that he does not want excessive background information. He prefers a Thesis and preview in the first paragraph with minimal additional information.

not have as clear of a link to the Thesis or Reinforcement stages. Greater consistency across the stages in this regard would have resulted in a more coherent argument, particularly if the student had provided a clear preview of them with nominal elements.

Further challenges with control of textual resources are evident in the organization of the Supporting Arguments. For example, the topic sentence of P3 delves immediately into contextualized evidence in the first sentence, rather than providing a general assertion as a topic sentence (Coffin & Donahue, 2014) that links back to the Thesis with a nominal element.[11] In other words, by beginning the paragraph with *One of the laws stated*, the student begins with an example of the laws that could have been used as evidence for a topic sentence asserting that women were punished in cruel ways. While the second Supporting Argument in P5 is better in this regard, it is still a mix of a more general claim and mention of specific evidence.

4.3. Text 3: challenges controlling interpersonal resources

According to McNeill, to what degree does disease influence culture?

P1 McNeill provides us with many facts with supporting details on how diseases affect culture. He strongly believes that disease had a fairly large part in reshaping human society and culture. The author gives many supporting examples of how diseases affect culture as well as civilization. Main factors that were strongly influenced by disease were: economy, agriculture, religion and social status. All were influenced by the outbreaks in life treating diseases.

P2 Economy was severely influenced by disease due to the decrease in human labor and efficiency. This caused a low work rate, which alternatively affected the amount of exports an empire, can give thus hurting the economy. Man power for building and maintain the vast networks of dikes and channels as well as organizing massive armies could not have been possible. With low work efficiency due to disease agriculture would slow down. Manpower was needed in India to produce food for the empire, but with peasants carrying most parasites not enough labor was available to produce enough food. Thus creating a fragile empire, due to weak armies and low population. Disease paved way for new research in medicine and science.

P3 Religion was influenced a great deal; Confucius tried to regulate "the macro parasites of upper class by defying a decorum that would restrict the exercise of power". This helped china by not overstressing their laborers therefore keeping them healthy. In Egypt, people would fear the god of disease and pray not to spread plagues throughout their empire. Social status in India was gone, due to low supply of food rulers became just like everyone else. This gave changes in how the empire was ruled. Changes in diets as well as behavior was not uncommon, people needed to change what they ate and what they did, to lower the possibility of getting infected. The Chinese stayed away from certain regions in order not to get infected as well as being to unbearable for them to handle.

P4 In all McNeill's, information in the text gave the impression that he saw that disease was a main cause on the changes in culture. His facts and opinions show that he truly believes that culture was influenced by disease and that many aspects like religion and agriculture were changed and new practices were done to coupe with the expansion of disease.

4.3.1. Ideational and textual: mixed effectiveness

The main strength of Text 3 is in its control of ideational and textual resources at the whole text level. These are best viewed in conjunction because the same stretches of language are operating ideationally and textually to create an essay that initially appears to respond quite well to genre expectations. Text 3 establishes an analytical framework to present information according to the demands of the prompt: P1 has an overarching claim ("disease had a *fairly large part* in reshaping human society and culture") and supporting claims ("Main factors that were strongly influenced by disease were: economy, agriculture, religion and social status") that create a clear preview of the Supporting Argument stages. The student maintains focus on this analytical framework to create consistency from beginning to end, evident in the topic sentences of the Supporting Argument stages (P2: "Economy was *severely* influenced"; P3: "Religion was influenced *a great deal*") and in the Reinforcement (P4: "disease was a *main* cause") that repeat nominal expressions and evaluations from P1. In the Supporting Argument stages, the student returns to the previewed nominal elements in the same order that they are previewed in P1.

However, Text 3 is less effective in its control of ideational and textual resources at the paragraph level. With regard to ideational resources, the information presented is grounded in knowledge of the source text, but it is not always accurate, relevant, and sufficient. In P2 the content from the source text is not presented in a logical order, which makes it difficult to interpret how all of the evidence might work together as accurate and relevant support. The topic sentence frames the paragraph to be about the economy, but when the paragraph is unpacked and reorganized, it becomes clear that what really ties the information together logically is that disease caused a "fragile empire": since not enough workers were available for agriculture, the empire could not profit from exports and it could not sufficiently feed or populate its army. The logic of the paragraph is also harmed by the final sentence's irrelevance to previously introduced ideas.

In P3 there is inaccurate and insufficient information. The reference to Confucius has no clear relationship to religion, and the quote mentions "macro-parasites", a specialized term used by the source text author to describe upper class members of society that has no literal connection to disease. While the information about Egypt could be productive evidence, the student does not articulate how disease influenced culture there (for example, by saying that a period of intense plagues increased people's tendency to pray). There is no clear claim about how disease changed social class in India, and the last two sentences of P3 have no apparent relevance to the discussion of disease and social class.

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[11] While it may be a viable paragraph development strategy to move from specific to general in longer and more sophisticated academic texts, the history professor values strong topic sentences that explicitly tie back to the thesis (which is consistent with the 3 × 3).

With regard to textual resources, the student is not completely effective in signposting and scaffolding the Supporting Arguments. There are supporting claims at the beginning of paragraphs, but each of the previewed supporting claims does not appear in its own topic senrtence: the student collapses the section on agriculture into the paragraph that is framed to be about the economy (P2) and the section on social class into the paragraph framed to be about religion (P3). The student also was challenged by controlling the choice of Themes to predict the focus of sentences. This is particularly evident in P3, which has a new Theme in nearly every sentence ("religion"; "Confucius"; "this"; "In Egypt people"; "social status in India"; "this"; "changes in diets as well as behavior"; "the Chinese").

4.3.2. Interpersonal: limited effectiveness

Text 3 is least effective in its control of interpersonal resources. The Thesis and Reinforcement stages are effective in this regard: it has an argumentative Thesis framed in terms of degree (P1: "He *strongly* believes that disease had a *fairly large* part…") and a Reinforcement that uses an Entertain move to indicate the tentative nature of the historical evidence (P4: "In all McNeill's, in-formation in the text *gave the impression*…"). However, it is within the Supporting Argument stages where the text is less effective in its deployment of interpersonal resources. This ineffectiveness is most noticeable in the student's struggles with including and controlling external voices to develop his points, and with creating patterns of engagement resources to develop a consistent stance and guide the reader towards the Thesis. Perhaps most importantly, there is no mention of the source text author in the Supporting Argument stages, and throughout Text 3, there is only one reference to the source text in an unattributed direct quotation in P3. In these stages, the student does not include mental and verbal processes such as *believe, think, know, discuss, analyze,* which are valuable "for bringing the voices of others into the text" and to enable "the writer to use what others have said as evidence" (Schleppegrell, 2006, p. 6).

While the student frames the Supporting Argument stages (P2, P3) in terms of degree in the topic sentences, he makes no moves to link the evidence to this interpretation with further evaluations or effective use of interpersonal resources, and he does not return to these evaluations in the final sentence of the paragraph to reinforce them. The reader is left with the impression that the student is not going beyond describing what happened (which is insufficient for argument genres) rather than embedding description strategically to further his overall position. This is evident in the heavy reliance on non-modalized verbs (P2: "influenced"; "caused"; "affected"; "was needed"; "creating"; "paved way"; P3: "influenced"; "tried"; "helped"; "was"; "became"; "gave"; "was"; "needed"; "ate"; "did"; "stayed") which indicate no anticipated resistance from the reader and suggest the information from the source text is taken to be factual by the student. While there is some limited use of interpersonal resources (e.g., P2: "not possible"; "would"; "but"), these are not employed strategically to guide the reader to the author's position, or to incorporate or allow the possibility for alternative voices in a measured way. Furthermore, the Supporting Argument stages are overwhelmingly organized by causal relationships (P2: "due to"; "caused"; "affected"; "due to"; "creating"; "due to"; "paved way"; P3: "due to"; "gave changes"; "to"; "in order to"), resources more typical of explanation genres (Coffin, 2006). The student does make use of some internal demonstratives (P2: "This caused"; P3: "This helped"; "This gave changes"), but he uses these to explain causal relationships rather than to draw conclusions in explicit support of the thesis (Schleppegrell, 2006, p. 6), via, for example, the incorporation and explication of evidence with patterning of Attribute and Endorse moves.

5. Discussion and implications

Our analysis of university students' emergent arguments in history reveals students' distinct successes and challenges in meeting genre expectations with regard to ideational, interpersonal, and textual meanings. The resources of SFL embedded in our 3×3 framework provide a theoretical conceptualization of argumentative writing that allowed us to uncover subtle ways that these texts met some but not all genre expectations. Responding to Hirvela's (2017) call for the need for conceptualizations of argumentative writing, we suggest that SFL theory embodied in the 3×3 framework can help move the field of SLW into "assembling a clear, coherent picture" (Hirvela, 2017) of what an effective argument is and how it can be taught and learned in different educational contexts. The analytical tools we presented can be valuable for writing and disciplinary instructors to help students *learn to argue* by using the expected linguistic resources of argumentation so that they can then effectively engage in *arguing to learn* by applying argumentation to thinking and learning (see Hirvela, 2017).

Conceptualizing argumentation with the 3×3 framework can shed light on students' specific challenges or successes in meeting genre expectations that may not be readily apparent. Without a clear understanding of the linguistic features of the argument genre, an instructor faced with a heavy grading load might over-value writing that meets certain argument genre expectations, such as effective overall organization, while under-valuing an ineffectively organized essay that nonetheless reflects strong argumentative reasoning or interpersonal positioning. It is likely that an instructor may easily recognize that an essay like Text 1 is inconsistent in the Thesis and Reinforcement stages and thus may be able to provide adequate scaffolding for the student. However, on a quick read, an instructor may evaluate an essay like Text 3 overly positively because it answers the question with an argumentative thesis, remains consistent from beginning to end, and adheres to the appropriate stages. The instructor might overlook Text 3's over-whelming reliance on factual language and causal relationships that are more typical of explanation genres, while failing to realize the lack of explicit links between the information presented in the paragraphs and the thesis that disease "severely influenced" the economy, agriculture, religion, and social class. Contrastively, an instructor may dismiss Text 2 for not following the stages of argument and using non-academic language in the first paragraph, while under-valuing the argumentative reasoning evident in the explicit links made in the paragraphs to explain how evidence relates to the thesis. Increased understanding of how ideational, interpersonal, and textual meanings function independently and in connection to each other in a text can enhance the teaching and

writing of argumentative writing.

Under this conceptualization of writing, instructors can isolate particular resources to help students meet genre expectations more effectively. For example, the interpersonal metafunction is most important for argumentation (Dreyfus et al., 2016), but its resources may be the most challenging for students to control and for instructors to recognize and teach. Text 3 is an emergent argument because of its overreliance on factual language and lack of explicit connections demonstrating how the information presented in the paragraphs links to the thesis. While it is important to recognize the importance of "the accumulation of knowledge" through description and narration in argumentative writing (Humphrey & Economou, 2015, p. 38), students need to learn to use them "in a strategic way − that is, in the service of analysis and/or persuasion" (Humphrey & Economou, 2015, p. 42). In other words, student writers need to "bring the retelling into the service of the argument" (Christie & Dreyfus, 2007, p. 244). To do this, students can be shown how to draw on implicit or explicit consequential relations using phrases, such as *thus* and *as a result* (Humphrey & Economou, 2015), and internal connectors, such as cohesive demonstratives that "refer back to points that have already been made so that the writer can draw conclusions about them, using, for example, _that means; this shows_" (Schleppegrell, 2006, p. 4). In the appraisal framework, Endorse moves (e.g., *this shows*), when used to explain a quote, are essential for advancing the argument and bringing the reader closer to the writer's interpretation and claim (Miller et al., 2014).

This language-focused conceptualization of argumentative writing can be beneficial not only for instructors of L2 writing, but also for instructors in the disciplines where a great deal of argumentative writing is done. Thus, while Hirvela (2017) calls for research on how instructors of L2 writing are defining and teaching writing, and how students are responding, we argue that it is imperative to investigate how argumentative writing is embedded in the disciplines and how L2 writing research can support it. Since not all instructors in the disciplines are equipped to make genre stages and linguistic features explicit to students, we recommend collaboration between disciplinary instructors and instructors with more language expertise, as in much SFL-based literacy work.

We have already begun supporting the history course under study by taking our findings back to the classroom in multiple ways.[12] First, we have conducted writing intervention workshops to scaffold student' writing development (Pessoa, Mitchell, & Reilly, in press). In these workshops, we deconstruct sample essays with the students and make the linguistic expectations of the genre explicit. Our analysis of pre- and post-workshop writing using our 3×3 tool suggests that students who start the semester with the least amount of preparation show the largest gains after explicit instruction; it appears that these workshops help novice writers of academic English close the gap between them and their more experienced classmates (Mitchell & Pessoa, 2017; Pessoa et al., 2018 in press). Our next step is to test our newly created rubric. Because an overly detailed rubric might be cumbersome for classroom teachers, we have designed a rubric based on the 3×3 presented here that provides explicit descriptions of how criteria from the professor's original rubric can be achieved through language. Emergent arguments are useful as sample texts in writing workshops to illustrate categories of the rubric, and teachers and students can co-construct revisions that improve the use of linguistic resources of a particular metafunction.

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[12] Although the history professor has not yet shared his perspective on the specific findings of this study (a limitation, to be sure), the fact that he and other history faculty have invited us to conduct writing workshops and assist in designing a new rubric indicate that they generally agree with our findings and find them useful.

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