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A Collaboration between Information Systems
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Scaffolding Case Analysis Writing: A Collaboration between Information Systems and Writing Faculty

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ABSTRACT

In this paper, we present a collaboration between writing professors and an information systems (IS) professor to scaffold case analysis writing at an American English-medium branch campus in the Middle East. We describe our process for revising the professor's writing assignment to make his expectations more explicit and for creating scaffolding materials that we delivered in classroom workshops to assist students' pre-writing. We provide insights about the positive impact of the writing workshops on students' writing from an end-of-semester interview with the professor and from interviews with students about their perceptions of the workshops and the personalized feedback they received.

Keywords: Collaboration, Faculty development, Faculty attitudes, IS major, Student perceptions

1. CHALLENGES IN THE TEACHING OF WRITING AT BRANCH CAMPUSES

A recent trend in higher education has been the establishment of English-medium branch campuses of Western universities worldwide (Wilkins and Huisman, 2012). With this expansion of English-medium branch campuses in non-English-speaking contexts comes the significant challenge of adapting to the institutional structures, expectations, and needs of the host country (Wilkins and Huisman, 2012) while maintaining the home institution's education quality (Miller and Pessoa, 2017). The difficulty of maintaining the standards of the home institution becomes salient when it comes to academic writing in English, particularly in academic writing across the disciplines. Research in this area shows that students may find themselves struggling to complete their studies in a second language (Coleman, 2006; Hughes, 2008). This is because

students may not be proficient enough in the target language to comply with the demands of higher education. Technical and academic writing can be especially challenging for students at international branch campuses (Evans and Morrison, 2011). In our context, many students enter the university less prepared and with less knowledge of academic genres than students at the home institution (Miller and Pessoa, 2017). These challenges are exacerbated because students are mostly instructed by disciplinary faculty who have little training in pedagogical methods, let alone in L2 (second language) writing pedagogy.

Previous research shows that faculty adopt different strategies when adapting to international branch campuses (Miller and Pessoa, 2017), including "dumbing down the curriculum" by eliminating or reducing writing assignments (see Wilkins and Huisman, 2012) or adjusting their expectations for such assignments. For example, some faculty

report that they continue to have the same writing requirements but change their expectations for language. Whereas on the main campus they would judge grammatical errors to reflect a lack of precision and deduct points, in the branch campus they adjust by focusing more on ideas and less on grammar and linguistic connections to avoid giving most students low grades (Miller and Pessoa, 2017). Others report that they lessen the amount of writing and reading requirements for their courses. Still others invest significant effort in helping students develop their writing skills, either by developing strategies to scaffold student writing based on their own experiences as writers or by seeking opportunities to collaborate with writing faculty to more effectively scaffold their students' writing.

In this paper, we describe a collaboration between an information systems (IS) professor (the third author) and the three other authors, writing professors with training in linguistics. This research is part of a larger interdisciplinary collaboration aimed at improving the communication skills of students in the Information Systems program at the university where this study was conducted. This larger project emerged in response to the expressed concerns by IS faculty about the writing needs and challenges of their students and the need to help them improve their disciplinary writing. The purpose of the specific collaboration reported here was to unpack an IS professor's tacit writing expectations of the case analysis genre, to revise and re-design the guidelines of a case analysis writing assignment, and to make the generic and linguistic features of case analysis explicit to students through the delivery of an in-class session coupled with out-of-class support.

2. THE IMPORTANCE OF WRITING IN INFORMATION SYSTEMS

Writing is an important component of professional IS work. In fact, Liu and Murphy (2012) assert that written communication is the top explicitly requested skill by employers. Reflecting this demand in the workplace, research has recommended that IS courses promote the development of students' written communication skills (Merhout and Etter, 2005). The *IS 2010 Curriculum Guidelines for Undergraduate Degree Programs in Information Systems* (Topi et al., 2010) state that "IS professionals should be able to communicate effectively with excellent oral, written, and listening skills" (p. 21). Despite the importance of effective written communication skills, a gap still exists between employers' expectations and the average written communication skills of IS graduates (Liu and Murphy, 2012). In our context, this gap might be exacerbated by the challenges that writing poses to students. Challenges range from basic grammar problems, the inability to show comprehension of a text and summarize it, lack of analysis, limited development of ideas, difficulty organizing ideas clearly and logically, and wordiness. Being new to the writing of IS disciplinary texts, some students are not aware of the rhetorical expectations of the tasks and have to find out for themselves what is expected in their writing.

In this study, we developed materials to assist an IS faculty in the teaching of an important disciplinary genre: the case analysis.

3. THE CASE ANALYSIS GENRE: EXPECTATIONS AND CHALLENGES

One of the most common writing assignments in IS courses is the case analysis. Although little research has investigated the case analysis genre in IS (see Miller and Pessoa, 2016b), this genre has been studied extensively in the fields of business and business communication. Following the Harvard case method (Leenders and Erskine, 1989), students are provided with a case and write an analysis including their solution to the problems presented in the case. Mauffette-Leenders, Erskine, and Leenders (1997) describe a case as a "description of an actual situation, commonly involving a decision, a challenge, an opportunity, a problem or an issue faced by a person (or persons) in an organization" (p. 2). A case analysis, then, is a "written case response in which writers analyze a case and identify key factors influencing events and actions in the case or influencing possible recommendations and decision-making" (Nathan, 2013, p. 59). In a case analysis, writers apply business concepts, theory, and knowledge to the analysis of business problems and business decision-making processes (Zhu, 2004). Drawing from business education, the practice of writing a case analysis has a wide range of targeted learning outcomes, as it may allow students to: develop an understanding of theoretical concepts; connect theory with application; develop analytical, problem-solving, decision-making, and higher-order reasoning skills through the integration of multiple concepts; apply disciplinary models to business problems in order to bring real-world issues and dilemmas into the classroom; and participate in experiential learning (Mauffette-Leenders, Erskine, and Leenders, 1997; Forman and Rymer, 1999a; Hackney, McMaster, and Harris, 2003).

Although the structure of a case analysis varies, it usually follows a report-analysis-recommendations structure. Thus, similar to the stages of case analyses in business identified by Forman and Rymer (1999a, 1999b), Nathan (2013), and Mauffette-Leenders, Erskine, and Leenders (1997), the stages of a case analysis in IS often include: (1) an introduction to the case, (2) a short report on the problems experienced by the company/organization and the solutions adopted by the company/organization, (3) an analysis and evaluation of the case using disciplinary concepts, and (4) recommendations for the company/organization to enhance its practice.

While it is vital for IS students to learn to write disciplinary texts such as case analyses, writing such texts poses several difficulties. Miller and Pessoa (2016b) found that writing a case analysis requires students to perform multiple, distinct roles (i.e., multiple textual identities adopted by the writer in a single text). These roles include enacting the persona of a student, a consultant, or a manager. At the same time, each role has multiple functions: for example, enacting the student role may involve reporting on the case, synthesizing information from it, or applying disciplinary knowledge to the case; enacting the role of the consultant may involve identifying problems, evaluating solutions, or making recommendations. Given these diverse roles and functions, many students face difficulties meeting genre expectations because they have difficulties shifting from reporting to analyzing (Miller and Pessoa, 2016b). Thus, many students report on what they read and understood from the case but stay at that level without performing the more

higher-level skill of analyzing the case.

Another challenge that students may face when writing a case analysis is the lack of explicit guidelines about the case analysis genre and its expected stages. Miller and Pessoa (2016b) found that many assignment guidelines do not make explicit the stages of the case analysis and consist of a series of questions for students to answer about the case. Thus, the case analysis often looks like a question-and-answer assignment rather than a full-fledged problem-solution-analysis genre. This can be attributed to the fact that many faculty lack explicit knowledge of features of IS genres necessary to help students understand the various rhetorical moves that are expected within their specific discourse community. In this study, we aimed to unpack an IS professor's tacit writing expectations of the case analysis genre and make the generic and linguistic features of the case analysis explicit to students through the delivery of an in-class session coupled with out-of-class support.

4. THE STUDY

This interdisciplinary collaboration took place at an English-medium American university's branch campus in Qatar, where most students are L2 writers. This branch campus follows the same curriculum as the main campus in a co-educational environment. The university has been in operation since 2004 and has graduated approximately 700 students who major in five disciplines. The students come mostly from Qatar, the greater Middle East, Pakistan, India, and Bangladesh and have been educated in various educational settings, including Arabic-medium public schools, English-medium private schools, and local "national" schools (e.g., the Indian educational system in Qatar). While some arrive well-prepared, many students struggle in the transition to college, in large part due to their limited experience reading and writing academic texts in English (e.g., Pessoa, Miller, and Kaufer, 2014; Miller and Pessoa, 2016a; Miller and Pessoa, 2017; Pessoa, Mitchell, and Mitchell, 2017).

In this study, we focused on addressing three main challenges. The first challenge is that students face difficulties meeting genre expectations (e.g., describing vs. analyzing). The second challenge is that many faculty lack explicit knowledge of features of IS genres. This leads to the third challenge, which is that assignments do not make explicit the structure of IS genres. To address these challenges, we engaged in an interdisciplinary collaboration with an IS faculty to better understand the case analysis genre, to re-design the professor's case analysis assignment and assessment rubrics, and to deliver an in-class writing workshop to scaffold case analysis writing.

The course we supported, "Concepts of Information Systems," is a first-year, undergraduate IS course about core concepts of IS and their importance. The course provides a general overview of the implications the field of IS has for organizations by describing what an information system is and by presenting applications of information systems. One of the written assignments students are required to complete in this course is a case analysis. Several of the course objectives stated in the syllabus are directly related to this assignment: to develop and strengthen skills in analysis and critical thinking, to recognize the strategic role of innovation in IS, and to develop IT literacy. Given that it is an introductory IS course, the case

analysis assignment was based on two short texts that narrated problems encountered by the LEGO company and the solutions the company implemented (Basulto, 2014). The assignment asked students to draw on different facets of the IS concept of *innovation* (introduced and discussed in the course prior to the case analysis) to evaluate the LEGO company's approaches to combatting its decrease in sales in the early 2000s.

4.1 SFL-based Pedagogy for Scaffolding the Discourse Patterns in Case Analysis Writing

Our approach to scaffolding writing in this IS course is grounded in Systemic Functional Linguistics (SFL)-based genre pedagogy. SFL is a theory of language developed by Halliday (1985) that focuses on the analysis of language as a meaning-making resource to accomplish different functions in different social contexts. SFL research provides rich descriptions of features of disciplinary genres with an explicit focus on language (e.g., Schleppegrell, 2004; Coffin, 2006; Schleppegrell, 2006; Christie and Derewianka, 2010; de Oliveira, 2011; Christie, 2012). SFL genre pedagogy helps learners understand how language choices are influenced by a writer's social purpose in using language. SFL-based genre instruction aims to make language choices explicit to students and scaffold the production of increasingly complex genres.

Miller and Pessoa's earlier work (2016b) alerted us to the need to be explicit about when and how to write descriptively and when and how to write analytically and argumentatively when writing a case analysis. Our understanding of the differences between describing and reporting and writing analytically and argumentatively is based on Humphrey and Economou's (2015) 'Onion model,' which is also informed by SFL and is used to refer to the relationship between four different discourse patterns of writing that are valued across academic disciplines (i.e., description, analysis, argumentation, and critique). As shown in Figure 1, Humphrey and Economou's (2015) model of academic writing development views the discourse patterns of description, analysis, persuasion, and critique are layered and interdependent.

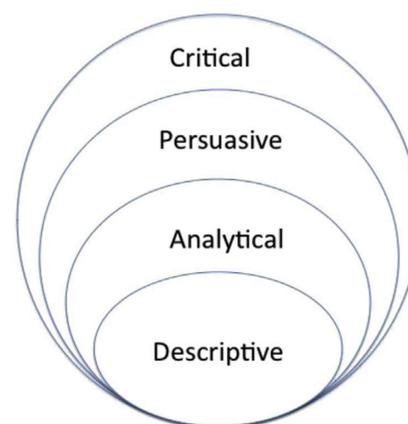


Figure 1. Onion Model Proposed by Humphrey & Economou (2015)

Briefly, in the Onion Model, description involves representing agreed upon knowledge from the discipline, the reading(s) in a course, or general common knowledge based on

descriptions of entities (e.g., *Uber faces three problems*) or descriptions of events in the form of a narrative that unfolds in time (e.g., *Uber first started to experience problems when it was founded in 2009. In 2011..., In 2015*). What differentiates analytical writing from descriptive writing is that, in analysis, the writer goes beyond presenting information as the way things are in the discipline. Analysis, then, requires the reorganization of information in some original way for the purposes of the text and it often involves applying a *disciplinary framework* to a case or an example. A disciplinary framework may be thought of as a discipline's agreed-upon classificatory or analytical lenses, and often takes the form of a "received" taxonomy (i.e., given to students) that has different elements. For example, in an information systems case analysis, students may be asked to analyze a company's weaknesses and strengths using the framework of Porter's Five Forces. This framework is composed of five different elements (industry rivalry, threat of new entrants, power of suppliers, power of customers, and threat of substitute products or services). When student writers engage in analysis, they are to break down a complex text or situation (such as the case of the Uber company) into smaller parts and show how the complex information fits into the elements of the taxonomy. The taxonomy from the disciplinary framework is then used to organize the text. This type of organization is what makes this text analytical rather than descriptive.

The next layer in the Onion model is argumentation, in which the writer argues for an explicit evaluation of or claim about ideas in the field and/or ideas of scholars. Argumentative writing usually unfolds with a claim phase (where the writer states their position) and a grounds phase (where the writer provides reasons to justify their claims). Argumentation uses both descriptive and analytical language, but in the service of an overarching explicit evaluation that is usually made at the beginning of a text. Students writing a case analysis about Uber can make an explicit evaluation of Uber's competitive strategy (e.g., *The threat of new entrants is high*). This explicit evaluation becomes the claim the student writer supports using reasons. Thus, the text is typically organized by a claim-reasons framework. While the entire text would be structured by a claim-reasons framework, the reasons would be supported with analysis that incorporates description. For example, the student would analyze the Uber case using Porter's Five Forces and blend description of Uber with analysis by showing how the different strengths and weaknesses of the company fit into the elements of the taxonomy of Porter's Five Forces. The key point here is that description is used in the service of the analysis, and both description and analysis are used in the service of the main argument of the text.

With critique, the writer challenges some aspect of disciplinary knowledge and positions the reader to accept this alternative position. While analytical writing involves organization around a received taxonomy, persuasion and critique require the author to generate the taxonomy (e.g., claims-reasons framework) that structures the text.

Knowing which discourse pattern (i.e., description, analysis, argumentation) is necessary in an assignment can help students identify the language they will need to successfully accomplish the purpose of a text. It is important to note that these discourse patterns are not discrete and do not happen in isolation. For example, in order to effectively evaluate a case, it

is necessary to incorporate analysis and description strategically in the service of evaluation (i.e., the argument). However, a recurrent problem that we have seen across writing in the disciplines is that students think that demonstrating their comprehension of the material is sufficient, and so they rely predominantly on descriptive language while overlooking the need to analyze or support an evaluation. When argument or analysis is expected, description that is not clearly purposeful is typically evaluated negatively by instructors. It was our goal to help students move from merely reporting on the case to writing analytically and argumentatively using disciplinary concepts.

4.2 The Process of Collaboration

Our initial collaboration with the IS professor took place from August 2017 – November 2017 as we developed materials to scaffold student writing in his course in Fall 2017. We supported student writing of multiple genres, including a case analysis, resume, and career reflection statement. For the purposes of this paper, we focus on the collaboration to scaffold the case analysis assignment. This collaboration can be described as a three-part process. Building on our previous research on case analysis writing in this program (see Miller and Pessoa, 2016b), first, we tried to obtain a clear understanding of the valued features of case analysis writing in this program through interviews with the professor (Miller and Pessoa, 2016b). This helped us unpack his expectations for writing beyond what was explicit in his assignment descriptions. The second part involved collaborative rewriting of the assignment description to make expectations clearer and developing materials for the in-class workshop. In the workshop, we explained to students the structure of the assignment with a focus on the analysis section. The third part of the collaboration involved a follow-up interview with the professor to reflect upon the collaboration and its outcomes, a survey of the entire class about their experience, short interviews with the students at the end of the semester, and analysis of student writing after the collaboration.

In what follows, we describe the process of collaboration in more detail with the aim of providing a model of interdisciplinary collaboration that can be adapted in other contexts to scaffold and enhance the quality of student writing. As the number of linguistically and culturally diverse students continues to increase globally, such collaborations can positively impact student learning and development. While the outcomes of the collaboration are beyond the scope of this paper, we briefly discuss preliminary insights from the outcomes of the collaboration in the conclusion.

4.3 Unpacking Writing Expectations

To understand writing expectations and to gain a better understanding of what is expected in IS case analysis writing, we drew on our initial interview with the IS professor. He stated that the objective of case analysis in IS is "to analyze a business scenario where IT is important" and in which "IT is there, and a business problem is there." He stated that to analyze a case, students need to "synthesize a case" and do "problem solving." He asserted that in a case analysis, students need to perform the steps of "analyze the situation," "apply the knowledge from the course," "think about the situation and possible solutions for this situation," "look at how the technology was applied and how it could have been better applied," "look at individuals and

how individuals handle situations ... from an IT management perspective”, and use key “concepts” and the “specific terminology” from the course to anchor their critical analysis. This also relates to the IS professor’s description of how students should perform a case analysis:

Understanding the situation is important. [The students] have to read the case [and] describe the situation in their own words. That’s the first step in the case analysis assignment. Then having made us all conscious of the fact that they have understood the situation, I have them look at how the technology was applied and how it could have been better applied. I also try to make them look at alternate technologies. This will always be an open-ended thing. The other thing in case analysis is to look at individuals and how individuals handle situations.

The professor had implicit knowledge of the structure for the IS case analysis. His description of the IS case analysis showed an order in which students should do an analysis, moving from reporting information from the case in order to demonstrate comprehension to identifying problems and making recommendations. However, in our interview we did not see any indication that the IS case analysis is taught as a genre with specific stages. In fact, the professor indicated that such a structure was not part of the instruction to students, and in reviewing his assignment descriptions, we saw that instead of describing this progression to students, the case analysis assignment was presented only as a series of prompts to which students were to reply, rather than a coherent genre.

4.4 Revising the Case Analysis Assignment

Following our conversation with the professor, we began to collaborate with him on multiple revisions of the case analysis assignment to provide students more explicit and detailed guidelines. The initial version of the assignment consisted of a series of questions for students to answer based on two texts related to the case of the LEGO company (see Figure 2).

As can be seen in Figure 2, students were asked to define terms (i.e., binge of innovation), to report on what the company did wrong, and to evaluate the company’s actions. However, the assignment did not require students to follow the stages of the case analysis genre. Based on the literature on case analysis writing (Forman and Rymmer, 1999a, 1999b; Zhu, 2004; Nathan, 2013; Miller and Pessoa, 2016b; Nathan, 2016) and the questions posed by the IS professor in the original assignment, the first two authors redesigned the assignment using a report-analysis-recommendations structure. Basically, the aim of the revised assignment was to have students analyze the strategies that the LEGO company implemented to overcome its decline in sales and the extent to which LEGO was successful in the implementation of these strategies. In order to do this, students had to first describe the case in their own words (i.e., summarize and synthesize the problems that the company faced and the solutions it implemented) and then analyze and evaluate the extent to which LEGO’s strategies were successful in overcoming their problems. Students were to rely on the concept of innovation (as explicated in the course) and its various kinds (e.g., incremental vs. radical innovation, process vs. product innovation). The IS professor reviewed these suggested changes to the assignment independently. After some collaborative revisions, we finalized the guidelines, satisfied that they were more explicit about how to organize the paper and what to focus on at each stage (see Figure 3).

Legoland Case Questions

1. Read the “Business and Money” article titled “Trouble in Legoland” and answer the following questions:
 - a) In Poul’s vision what kind of innovation strategy was required for LEGO after 1998?
 - b) Was LEGO successful in their innovation attempts? What went wrong? How did they recover?
 - c) What does the phrase “binge of innovation [that occurred at LEGO]” imply? Is it always a successful strategy?
2. Read the Washington Post article and answer the following questions:
 - a) Briefly explain how LEGO has moved on to become the most innovative toy company in the world (in the opinion of the author).
 - b) Do you agree with the opinion of the author? Why or why not (support your answer by researching and finding two other articles or posts).

Note: Cite all references used to support your answers. If in doubt ask the reference librarian for help.

Figure 2. Original Case Analysis Assignment

Read the two articles titled “*Trouble in Legoland*” and “*Why LEGO is the most innovative toy company in the world*” and prepare a case analysis.

What is a case analysis?
A case analysis is a document in which you evaluate and analyze how a company dealt with a problem. In this case analysis, you will analyse the strategies that LEGO implemented to overcome its decline in sales and the extent to which they were successful or not. To do this, you will have to first explain the case in your own words. This means that you will have to summarize and synthesize the problem(s) that LEGO faced and the solution(s) the company implemented. After this, you will have to analyze and evaluate the case. To do this, you are to rely on theoretical frameworks or key concepts learned in class. In this case, you will refer to the different approaches to innovation – e.g., incremental vs. radical innovation, process vs. product innovation, and stages of innovation. You will apply these concepts to analyse LEGO’s innovation attempts and their degree of success/failure.

I. Introduction (~1/2 page)
In this section, you will introduce the case, analytical framework, and main argument from your analysis. Here are some guidelines.

- Provide a background and description of the company. Cite one reference to support your discussion.
- State the purpose of this case analysis based on the above description and the focus of your analysis (Introduce the key concepts from the approaches to innovation that you will use in your analysis)
- State your main argument from your analysis of the case: E.g., “My analysis shows that LEGO was successful/somewhat successful/not very successful in their approach to innovation because of...” (You can name your sub-claims and their connection to your theoretical framework of innovation)

II. Summary of the Case: Issues/Problems (2/3 page)
In this section, you will report on the issues/problems that LEGO faced. You may consider the following questions when writing about the company’s issues/problems. Divide this section into subsections, one for each issue/problem. Here are some questions to think about.

- What problem(s) did LEGO encounter? State each issue or problem from “*Trouble in Legoland*”
- In Poul’s vision what kind of innovation strategy was required for LEGO after 1998?
- Was LEGO successful in their innovation attempts? What went wrong?

III. Summary of the Case: Solutions (2/3 page)
In this section, you will report on how LEGO solved its problems (i.e., the solutions). Here is a question to think about.

- How did Lego solve their problems?

IV. Analysis of the Case (2/3 page)
In this section, you will analyze/evaluate the case in connection to theoretical frameworks and/or concepts from information systems. For this case analysis, you will use the different strategies for innovation that we discussed in class: e.g., incremental vs. radical innovation, process vs. product innovation, and stages of innovation. Analyze the case based on the following questions.

- State your evaluation of the company’s use of innovation (i.e., successful, somewhat successful, unsuccessful). The evaluation becomes the claim you are making.
- Define your taxonomies (i.e., types of innovation you will refer to)
- Provide evidence to support your evaluation of the company’s use of innovation
- Show how your evidence connects to your evaluation that LEGO was successful/unsuccessful in its use of complementary innovation

V. Conclusions & Recommendations (3 to 4 sentences)

- Sum up the main points from the case and link that to what other similar companies can learn from the experience of Lego?

Figure 3. Revised Case Analysis Assignment

As shown in Figure 3, the revised assignment explicitly indicated the main purpose of the case analysis assignment and gave students explicit instructions about what to include in each section of the case analysis (i.e., introduction, summary of the case, analysis of the case, and recommendations). As indicated in the assignment, the main purpose was to evaluate and analyze the strategies that LEGO used to overcome its decline in sales using the disciplinary framework of innovation. To do this, in

the introduction, the students were asked to provide a background and description of the company, to state the purpose of the case analysis, to introduce the disciplinary framework that guided their analysis, and to state the main argument from their analysis (i.e., whether LEGO had been successful, unsuccessful or somewhat successful in its implementation of a specific type of innovation). In the summary of the case section, students were instructed to

describe the problems that LEGO faced and how LEGO solved its problems. In the analysis section, students were instructed to define the term ‘innovation,’ to discuss LEGO’s innovation strategies, and to analyze the extent to which LEGO was successful or not in implementing their innovation strategies. In the conclusions and recommendations section, students were asked to summarize the main points from the case and to express what other similar companies can learn from the experience of LEGO.

4.5 The Writing Workshop

Once the assignment guidelines were ready, the first two authors developed scaffolding materials for the in-class workshop that took place two weeks before the assignment was due. The scaffolding materials (see Appendix) stated the main purpose of the case analysis and described the structure of the assignment in more detail. We indicated that the main purpose was to evaluate and analyze LEGO’s implementation of innovation. To do this, the students had to introduce the case in the introduction and explicitly state their evaluation of LEGO’s use of innovation (e.g. *LEGO was successful / somewhat successful / not successful*). We then emphasized the difference between reporting on the case (describing the problems faced by LEGO and the solutions implemented by the company) and analyzing it. As mentioned earlier, our understanding of the differences between description and analyzing is based on Humphrey and Economou’s (2015) ‘Onion model.’ Although we were not explicit with students about the Onion model, we used it to develop our materials for the writing workshop.

In the workshop, we told students that description is important in order to identify the problem(s) and the solution(s) implemented by the company. In this section, students could present information as entities (e.g., *LEGO experienced three main problems...*) or as events in the form of a narrative that unfolds in time (e.g. *LEGO first started to experience problems in the early 1980s. In 1985...*). However, we also indicated that an effective case analysis goes beyond reporting and uses the key concepts from the course (i.e., types of innovation) to analyze how successful the company was in implementing its solution(s).

We then focused on the analysis section of the assignment. We presented students with a model analytical paragraph based on a disciplinary framework used in other IS courses (i.e., Porter’s Five Forces), and we deconstructed it with the students (see Figure 4).

In guiding the students to answer question (a), we called their attention to how the writer evaluates Uber’s competitive strategy. For example, in the sample paragraph, the writer evaluates ‘industry rivalry’ for Uber in the United States as *high*. After defining the concept of ‘industry rivalry,’ the writer stays focused on the initial evaluation throughout the text (*in Uber’s case, industry rivalry in the United States is high because of the high number of firms with similar business models*). We also called students’ attention to the fact that tempered, nuanced, and balanced evaluations are usually valued by disciplinary teachers because they show complexity of thought. In this sense, the student writer could have argued that industry rivalry for Uber in the United States is *somewhat high*.

Read the analysis part from this sample case analysis based on the LEGO company and answer the following questions.

- a) What is the writer’s evaluation of Uber’s competitive strategy and how do you see that reflected in the use of language?
- b) What do you notice about words/phrases that are highlighted, bolded, or italicized?
- c) Do you see any places where the language reveals the writer anticipates potential disagreement from a reader?

Porter’s five forces is a model that identifies and analyzes five competitive forces that shape every industry and helps determine an industry’s weaknesses and strengths. The five forces are: (1) **industry rivalry**, (2) **potential of new entrants into the industry**, (3) **power of suppliers**, (4) **power of customers**, and (5) **threat of substitute products**. In the case of Uber in the United States, **industry rivalry**, the **potential of new entrants into the industry**, the **power of customers**, and **threat of substitute products** are **high**. **Supplier power**, however, is **moderate**.

First, **industry rivalry** for Uber in the United States is **high**. **Industry rivalry** refers to the number of competitors and their ability to threaten a company. The larger the number of competitors, along with the number of equivalent products and services they offer, the lesser the power of a company. In Uber’s case, **industry rivalry** in the United States is **high because** of the **high number of firms with similar business models**. For example, there are many companies that connect people with safe, reliable rides. Some of these companies in the United States are Lyft and Curb. Although Uber still has a strong customer base, it has reportedly lost 1 percent of the ground transportation market. As Kerr (2017) states, in some cities, like San Francisco, it saw an 8 percent fall. Meanwhile, Lyft is on the rise. **This shows that industry rivalry** for Uber in the United States is **high**.

Figure 4. Model Analytical Paragraph based on a Disciplinary Framework

To help students answer question (b), we focused on how the evaluation of the Uber case is framed using a disciplinary framework: Porter’s Five Forces. The framework’s taxonomy with its different elements (i.e., industry rivalry, potential of new entrants into the industry, power of suppliers, power of customers, and threat of substitute products) is used to present and organize the ideas of the text. The writer focuses on industry rivalry in the first paragraph, and in subsequent paragraphs they should focus on the rest of the elements of the taxonomy. The information from the Uber case is presented in a way that fits into the elements of the taxonomy. For example, the fact that Uber has competitors such as Lyft and Curb and that ‘it has reportedly lost 1 percent of the ground transportation market’ shows that industry rivalry is high.

We then proceeded by calling students’ attention to other, more nuanced aspects of the presentation of ideas. Because the main purpose of the text is two-fold – to analyze and to evaluate Uber’s competitive strategy – the text makes an explicit evaluation that becomes the claim the student writer makes and defends throughout the case analysis (and specifically throughout this part) using reasons. Thus, the text also adopts a claim-reasons framework which creates another level of taxonomy for this section. While the Porter’s Five Forces framework is a received taxonomy from the discipline, the claim-reasons framework is a taxonomy that the student writer comes up with based on the analysis. The elements of the claim-reason taxonomy are stated as abstract nouns and are linked by logical relations using *because*, as in: *In Uber’s case, industry rivalry in the United States is high because of the high number of firms with similar business models.* We explained this taxonomy visually, as shown in Figure 5.

To assist in answering question (c) which asked students to consider language that reveals the writer’s anticipated reaction of the reader, we pointed to the part in the sample model paragraph where the student writer is doing this (i.e., *Although Uber still has a strong customer base, it has reportedly lost 1*

percent of the ground transportation market). Using this example, we pointed to key words that are used to anticipate and counter disagreements such as *even, might, seem, although this...that, while this...that*. Finally, we highlighted the need to effectively use Attribute moves to bring in evidence from the case or from outside sources into the response (e.g., Attribute: *As Kerr (2017) states*), and Endorse moves to show how the evidence presented supports points being made (e.g., Endorse: *This shows that, this confirms*).

Since the assignment that students were given asked them to apply the framework of innovation (which had been taught in class) to the details of the LEGO case (and not Porter’s Five Forces as in the sample analytical paragraph), we brainstormed in the classroom ways in which they could answer the assignment’s questions. Briefly, the framework of innovation is composed of different types of innovation (e.g., complementary and incremental innovation) that describe business strategies. We explained that the question that reads “state your evaluation of the company’s use of innovation” invites an explicit evaluation (e.g. *successful, somewhat successful, unsuccessful*). This explicit evaluation becomes the claim the student writer supports throughout the analysis section of the assignment using a claim-reasons framework. In the case of LEGO, we explained that if the writer uses a positive evaluation (e.g., *LEGO was successful in its approach to innovation*), the writer needs to stay focused on positive evaluations and positive outcomes (e.g., *increase in profits and growth of the company’s customer base*) throughout the text. We also called students’ attention to the fact that good arguments often rely on tempered, balanced, nuanced evaluation that shows complexity of thought. We pointed out that the concept of innovation lends itself to positive evaluations. However, in order to show depth in their analysis, we explained to the students that they could argue that LEGO was successful to a certain extent or was successful in terms of one type of innovation and not in others.

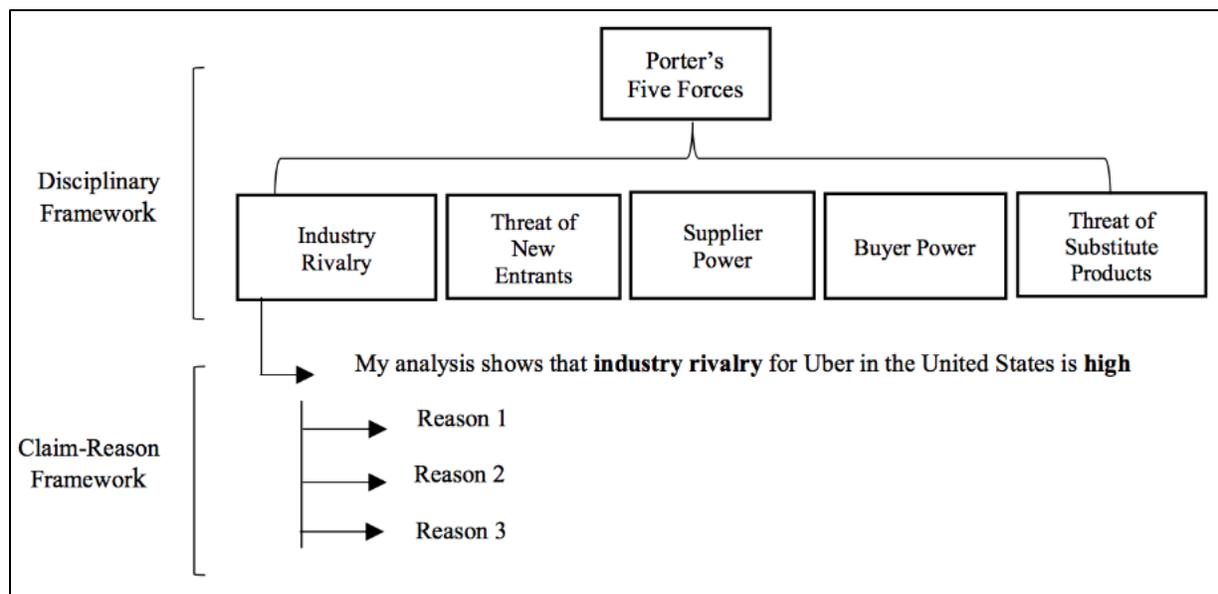


Figure 5. Visual Representation of a Taxonomy in the Analytical Section of a Case Analysis

In addition to the workshop materials, at the end of the workshop students were given a quick guide to writing effective case analyses that provided them with eight main take-aways for writing analytically and argumentatively (see Figure 6).

Quick Guide to Writing Effective Case Analyses

1. Clearly state an explicit evaluation (your claim) at the beginning of the text that stays consistent throughout the text.
2. If relying on a disciplinary framework, frame it as a taxonomy with specific elements, define those elements, and use the taxonomy to present and organize your ideas.
3. Analysis requires breaking a complex phenomenon (text or situation) into its parts and showing how these parts fit into the elements of a specific taxonomy (e.g., your disciplinary framework).
4. Create a claim-reason framework and use abstract nouns to presents reasons (grounds) for your claim (see figure below)

In this assignment, you'll apply the framework of innovation to analyze the case.

5. Incorporate evidence to support your claim using phrases such as *According to, Author X argues; X magazine/newspaper reports.*
6. Show how the evidence presented supports claims being made with phrases such as *This shows that, this confirms.*
7. Use consistent and tempered evaluations that are balanced and nuanced and that show complexity of thought.
8. Anticipate or acknowledge alternative perspectives, and counter them with more evidence (using phrases such as *even, might, seem, although this...that, while this...that*).

Figure 6. Quick Guide to Writing Effective Case Analyses

Parts of the Case Analysis		Expectations: The case analysis		
		Meets Expectations (11-15 points)	Developing Expectations (7-10 points)	Below Expectations (1-6 points)
Introduction	<ul style="list-style-type: none"> States the purpose of the case analysis. Provides basic background information about LEGO. Briefly introduces the analytical framework (taxonomy) used for analysis Makes an overall (nuanced and balanced) evaluation related to the analysis of the case (e.g., Lego was successful/somewhat successful/unsuccessful in its use of innovation) Creates own taxonomies using abstract nouns to name reasons for the overall evaluation Provides recommendations for how technology can help improve the experience 			
		Points: /15		
Summary of the Case (Problems and Solutions)	<ul style="list-style-type: none"> Accurately and concisely reports the problems LEGO faced using concrete information from the case or outside sources (embedded descriptions) Accurately and concisely reports the solutions LEGO implemented to solve the problems using concrete information from the case or outside sources (embedded descriptions) 	Meets Expectations (20-25 points)	Developing Expectations (16-24 points)	Below Expectations (1-15 points)
		Points: /25		
Analysis of the Case	<ul style="list-style-type: none"> Makes a (nuanced and balanced) evaluation of the case using the disciplinary framework (i.e., given taxonomy of innovation) Organizes ideas using the disciplinary framework Creates a claim-reason framework and uses abstract nouns to presents reasons (grounds) for the evaluation Supports the evaluation consistently with evidence from the case and outside sources using descriptive and narrative language Acknowledges different perspectives and counters them with evidence to consistently support the overall evaluation with the use of phrases such as <i>even, might, seem, although this...that, while this...that.</i> Brings in other voices by using "Attribute" moves such as <i>"According to..." "XX argues that..."</i> and closes the dialogue by showing how the voices brought in help to support the claims using "Endorsement" moves such as <i>"This shows," "This means..."</i> Comments on the evidence presented and connects it to the evaluation being made (e.g., <i>Clearly, this shows that...</i>) 	Meets Expectations (28-35 points)	Developing Expectations (18-27 points)	Below Expectations (1-17 points)
		Points: /35		
Recommendations	<ul style="list-style-type: none"> Creates a taxonomy to label the recommendations Links recommendations to the analysis Provides reasons for why such recommendation are made and the potential effects of the recommendation 	Meets Expectations (11-15 points)	Developing Expectations (7-10 points)	Below Expectations (1-6 points)
		Points: /15		
Use of standard academic language	<ul style="list-style-type: none"> Includes main title and subtitles that are meaningful. Uses an academic style rather than an informal conversational style. Presents ideas clearly and concisely. Uses standard grammar with attention to sentence structure, subject-verb agreement, punctuation and spelling. Cites references appropriately and consistently. 	Meets Expectations (9-10 points)	Developing Expectations (6-8 points)	Below Expectations (1-5 points)
		Points: /10		
Total Points:		/100		
Comments:				

Figure 7. Rubric for Assessment of Case Analysis Writing

4.6 The Rubric to Assess Student Writing

Based on the assignment guidelines and workshop materials, the first two authors with the IS professor co-designed a rubric (see Figure 7) to assess the case analysis and provide feedback on the first draft and second drafts. The second author gave the students detailed feedback using the rubric with a specific focus on the stages of the case analysis and the use of analytical language. Based on this feedback, the students wrote a final draft and obtained further feedback from the second author and a grade from the IS professor.

5. REFLECTIONS ON THE INTERDISCIPLINARY COLLABORATION

At the end of the semester, we conducted a follow-up interview with the professor for him to reflect upon the collaboration and its outcomes. In addition, all the students in the class ($n = 22$) completed an online survey (administered through *QuestionPro*) about their experience participating in the in-class writing workshops and receiving personalized feedback on their writing from the second author. For example, students were asked to what extent the case analysis writing workshop was helpful for their understanding of how to write a case

analysis and to what extent the writing workshop helped them complete the case analysis assignment successfully. A subset of the students ($n = 5$) were then interviewed by the first author.

When reflecting upon the collaboration and its outcomes, the professor mentioned that he found it useful, stating that:

We're getting the expertise of professors from the language side and this is unusual in any institution for IS professors to get this kind of assistance. We get trained probably in some of the common things whether it is the rubric or the language aspects. But here we are doing the experiments and we have embedded language professors who come in and try to understand the situation and try improve our courses.

In addition, he mentioned that:

A major challenge information systems professors face in course development in our university campus is the need to address students of various cultural and linguistic backgrounds. For a great majority of the students English is a second language. Partnering with the language specialists in this project has been an eye

opener for me. They provided a meticulous reading of the assignments I created and suggested structural and grammatical corrections. They also helped me better understand the case analysis 'genre' thus improving my courses that depend heavily on case analysis and development. Definitely, such a partnership is unique and worth emulating in campuses of this nature as it significantly improves instruction and course delivery. I believe I will continue to draw upon the experience gained from this collaboration even after the project is over, so my future students will also benefit.

This shows that the professor valued the collaboration as it benefitted himself, his students, and has the potential to benefit his future students as well.

As for students' perceptions of the various aspects of the intervention to scaffold the writing of case analysis, including the in-class workshops and feedback from and meetings with the second author, they reported that they found each part of the intervention to be beneficial, but in somewhat different ways. They reported that the workshops helped them to understand expectations (the professor's expectations, what kinds of information to include). On the other hand, students reported that the feedback from and the meetings with the second author helped them to understand how to use language in terms of grammatical correctness and how to use language to enact the genres. Overall, the students reported that they found the workshops useful, with the vast majority of students reporting that they found each of the workshops beneficial "to a great extent." More specifically, students reported that the benefits of the workshop were in helping them to better understand expectations and how to organize their ideas.

Students overwhelmingly reported that the feedback they received from the second author was helpful. The top perceived benefit was, again, a better understanding of what to include in the assignment. However, different from the workshops, students reported more language-related benefits of the feedback, including how to use language to organize ideas, genre stages, and how to use language to structure paragraphs.

In our post-intervention interviews with students, we further learned that they found the workshops and the personalized feedback they received in meetings with the second author helpful. For example, one student mentioned:

The explanations provided by Author 1 and Author 2 were extremely useful because I have never written a case analysis before and the fact that you gave us what questions and the kind of layout that a case analysis should have really helped me in terms of what to include and what not to include and where.

Similarly, another student stated:

When you came and gave us lectures it really helped me because I did not know the paper structure... and even the meetings I had with you or with Author 2 helped me develop my papers and made my papers way more better...even the case analysis paper, the LEGO one, originally, I did not know how to write it but you gave us the layout and examples from previous year and this really helped me.

Another student mentioned:

I found the workshops very useful because originally from school I did not use to write a lot in school they did not focus on English and all of that, they focused on science and math and all of that. When I came here and you came and gave us lectures it really helped me because I did not know the paper structure... and even the meetings I had with you or with Author 2 helped me develop my papers and made my papers way more better...for the case analysis paper, the LEGO one, originally, I did not know how to write it but you gave us the layout and examples and this really helped me.

In addition to the positive perception of the workshops, our analysis of the case analysis assignments shows that students were able to command the main characteristics of the case analysis genre, such as: (1) following the stages of a case analysis that we presented in the in-class writing workshops (i.e., introduction, report, analysis, and conclusion stages), (2) accurately and succinctly stating the purpose of the case analysis and an overarching claim about the case in the introduction stage, and (3) including an analysis section that both defines the disciplinary concepts that guide the analysis and integrates accurate, relevant, and sufficient evidence from the case and from external sources to support the claims made.

6. DISCUSSION AND CONCLUSION

This paper presented a model of collaboration between English and disciplinary faculty that can be useful in meeting the needs of the increasing number of linguistically and culturally diverse students in higher education. In international branch campuses of English-medium universities, increasing numbers of multilingual students have to meet the writing demands and expectations of disciplinary teachers who may not have any training in pedagogy, let alone L2 writing pedagogy. Thus, we argue that collaborations like the one presented in this paper are needed to help disciplinary teachers scaffold L2 writing development. Such a model of collaboration can have a positive impact on teacher development and student writing outcomes, as we observed in this study and as reported in the literature on interdisciplinary collaborations between language experts and teachers in the disciplines at the primary and secondary school levels (see, e.g., Brisk, 2014; Humphrey, Sharpe, and Cullen, 2015; Humphrey and MacNaught, 2016) and to a lesser extent in higher education (see, e.g., Dreyfus et al., 2016; Pessoa, Mitchell, and Miller, 2018; Pessoa, Mitchell, and Reilly, in press).

We argue that in the process of scaffolding L2 writing development, it is crucial to help students understand the kinds of language that are needed (and where and how they will be needed) to successfully accomplish the purpose of an assignment (the case analysis in this specific collaboration). This is important because much of the writing that university students do involves one or more of three discourse patterns: description, analysis, and argument (Humphrey and Economou, 2015), but some struggle to do so and resort to description and reporting without meeting genre expectations.

We are aware that the process of collaboration between disciplinary faculty and writing experts requires investment,

commitment, evaluation, and continued refinement of materials and methods. The starting point for such collaborations is having a disciplinary faculty member interested in addressing student needs through a focus on language. Then, the language specialists must become familiar with the particular demands and challenges of the professor's writing assignments, and of the discipline's linguistic and genre demands. This familiarity can be achieved by: analyzing course materials and student writing (e.g., comparing high- and low-graded essays to identify valued features), conducting think-aloud protocols with the professor about student writing, and reviewing the available academic literature. These data and background knowledge form the basis for the development of the materials for an intervention. After implementing an intervention, it is important to sustain an iterative process of data collection, analysis, and reimplementation to continue refining the materials.

In the future, we will continue analyzing student writing to, hopefully, further confirm the positive student outcomes from this collaboration and identify areas still requiring more explicit instruction. Overall, the interdisciplinary collaboration reported here has had a positive impact on teacher development and student outcomes. Analysis of former student writing, think-aloud protocols with the professor, and continuing conversations with him have helped us all to understand his expectations and transmit them to the students in more explicit ways to better scaffold student writing. We are engaged in similar work the same faculty member to scaffold the writing of the case development genre in a more advanced IS course and with other faculty in the discipline of history. Although this requires time commitment from all parties involved, the small size of our institution (we are all in the same building) and our light teaching load has allowed for these kinds of collaborations. We have been fortunate to work with highly engaged and committed faculty, but we have also encountered less responsive faculty who see the value of the writing workshops we (the authors) offer to their students but are somewhat resistant to changing their own pedagogical practices. Despite these challenges, our findings from writing outcomes in different disciplines suggest that this kind of collaboration can serve as a model for disciplinary teacher development in higher education.

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Appendix: Writing Workshop Materials

Your case analysis will consist of **two major parts**:

1. A report of your understanding of the case;
2. An analysis of the case using theory/concepts from information systems

Each part of the case analysis is equally important, but you should focus on the analysis and argumentation and avoid just repeating what the case says.

Your case analysis should have:

Part I: Introduction, where you:

- a) Introduce the company
- b) Introduce the purpose of the case and the theory/concept(s) that you will use for your analysis
- c) State your main evaluation:

Example:

My analysis shows that LEGO's approach to innovation was... **(successful, not successful, somewhat successful...)**, as judged by A, B, and C.

Part II and Part III: Summary of the case (in these parts you should report the problem(s) the company faced and the solution(s))

Part IV: Argument/Analysis (in this part you should evaluate and analyze how LEGO implemented innovation)

For your LEGO case analysis:

Let's look at the following question and the sample analysis paragraph that follows:

Evaluate Uber's competitive strategy by applying Porter's Five Forces framework. Your evaluation should be based on the information provided in the case and other available information about the related industry.

Porter's five forces is a model that identifies and analyzes five competitive forces that shape every industry and helps determine an industry's weaknesses and strengths. The five forces are: (1) **industry rivalry**, (2) **potential of new entrants into the industry**, (3) **power of suppliers**, (4) **power of customers**, and (5) **threat of substitute products**. In the case of Uber in the United States, **industry rivalry**, the **potential of new entrants into the industry**, the **power of customers**, and **threat of substitute products** are **high**. **Supplier power**, however, is **moderate**.

First, **industry rivalry** for Uber in the United States is **high**. **Industry rivalry** refers to the number of competitors and their ability to threaten a company. The larger the number of competitors, along with the number of equivalent products and services they offer, the lesser the power of a company. In Uber's case, **industry rivalry** in the United States is **high** *because* of the **high number of firms with similar business models**. For example, there are many companies that connect people with safe, reliable rides. Some of these companies in the United States are Lyft and Curb. Although Uber still has a strong customer base, it has reportedly lost 1 percent of the ground transportation market. *As Kerr (2017) states*, in some cities, like San Francisco, it saw an 8 percent fall. Meanwhile, Lyft is on the rise. **This shows that** **industry rivalry** for Uber in the United States is **high**.

Let's Review the Sample Analysis Paragraph:

- a) How is the text organized? What is the focus of each paragraph? How do the two paragraphs relate to each other?
- b) What is the writer's attitude toward Uber's competitive strategy and how do you see that reflected in the use of language?
- c) What do you notice about words/phrases that are highlighted, bolded, or italicized?
- d) **Let's look at the analysis section in more detail**

1. Front your **evaluation** of the company's competitive strategy (i.e., very high, high, moderate, low, very low). The **question asks for an explicit evaluation**. The evaluation becomes the **claim** you are making.

In the case of Uber in the United States, industry rivalry, the potential of new entrants into the industry, the power of customers, and threat of substitute products are high. Supplier power, however, is moderate.

Industry rivalry for Uber in the United States is high



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