Article

Creating a Continuous Improvement Model for Sustaining Programs in Technical and Professional Communication

Joanna Schreiber[1] and Lisa Meloncon[2]

Abstract

We build on previous scholarship calling for sustainable growth in technical and professional communication programs through *maintenance and reflection.* Inspired by continuous improvement models used in industry, we offer GRAM—Gather–Read–Analyze–Make—a continuous improvement model designed to identify and align often overlooked practices and processes necessary to build and sustain programs.

Introduction

As long time friends, the authors of this piece were talking on the phone one day when we realized that, while our jobs and institutions were quite different, we were both being asked to take on a revision of an undergraduate program.

[1]Georgia Southern University College of Education, Statesboro, GA, USA
[2]University of South Florida, Tampa, FL, USA

Corresponding Author:
Joanna Schreiber, Georgia Southern University College of Education, PO Box 8026, Statesboro, GA 30460, USA.
Email: jschreiber@georgiasouthern.edu

We decided to help one another as much as we could by sharing resources and by meeting to talk through programmatic issues.

In one of our early conversations, we both voiced our frustrations about the existing literature in technical and professional communication (TPC). We were having trouble locating scholarship that was more than a new, improved, or different way to assess student learning. Anderson (2010) seemed to sum up our frustrations, "[t]he literature on assessment provides an abundance of advice for ... analyzing student artifacts and refining curricula based on what is learned. Far less advice addresses the fundamental task of defining a program's educational objectives" (p. 62) and helping faculty "identify objectives that are most worthy of pursuing" (p. 58). Anderson's point is that assessment can only tell us about how well programs are meeting some of their goals, such as how well students are meeting learning outcomes. The assessment literature is less helpful when programs need to identify new goals or proactively change their orientation or what they emphasize.

As we continued to talk through some of the limitations of the assessment literature, we were forced to articulate what we felt was missing from it. We needed something that helped to place common curricular practices such as course creation, assessment, recruitment, and student reflection into a larger programmatic context that is informed by systematic examinations of related TPC programs and industry practices. And all of that needed a way to be placed within our local institutional and departmental contexts where work is often spread across committees and must address various institutional policies. Without all of these pieces, we did not feel we could make informed decisions about our programs nor would we have the tools to sustain them. In short, we needed to gather more data, outside of assessment data, to ensure that our programs could be agile, proactive, and most importantly, sustainable.

We recognized that the answer was not to extend, complicate, or create new assessment models, but rather, to acknowledge that programs have multiple data-driven programmatic needs beyond assessment. In Anderson's terms, we needed something to help us identify what a new program's objectives might look like.

In what follows, we describe the need for a deeply sustainably programmatic perspective that addresses Johnson's (2004) call for reflective cross-programmatic work, and we discuss the limitations of current assessment practices, which illustrate the need for a new type of programmatic evaluation model. Basing our work on continuous improvement models from industry, we provide a rationale for their use and then propose a programmatic continuous improvement model (called GRAM [Gather–Read–Analyze–Make]). We end with two cases to show how GRAM can be used in TPC programs. This model is flexible and adaptable enough to be used by different types of programs, as evidenced by the authors' different circumstances, and it can help ensure the sustainable growth and development of TPC programs.

Deeply Sustainable Programmatic Perspective and the Limitations of Assessment

Much of TPC's current programmatic scholarship is limited in scope to single institutional case studies (e.g., Bridgeford, Kitalong, & Williamson, 2014; Tillery & Nagelhout, 2015), which limits their applicability across programs and falls short of Johnson's (2004) call for field-wide programmatic reflection. As TPC programs continue to expand (Meloncon, 2017b), Johnson's (2004) call for sustainable programs becomes even more of an imperative as he reminded the field that sustainability requires attention to reflection and to action because "multi-directional active reflection" (p. 102) provides necessary programmatic information that can assist in maintaining and growing programs. He also uses *deep* to ensure that TPC program administrators (PAs) look beyond the surface to push back against shallow reflection.

Expanding Johnson's (2004) arguments, Meloncon and Schreiber (in press) call on the field to focus on programmatic sustainability. They collected data from TPC programs across the United States to provide an in-depth examination and critique of the capstone course. They argue, "more than affecting single programs, evaluating and rethinking the capstone course helps TPC PAs and faculty emphasize the need to be sustainable, which requires a programmatic perspective that considers field-wide data alongside local circumstances". Meloncon and Schreiber's data provide a much needed understanding of how the field itself is approaching the capstone course. This type of field-wide perspective is a key component to move toward sustainability because TPC PAs need to know how other programs approach the course to ensure a disciplinary orientation. Meloncon and Schreiber also found that common practices across programs, such as using client projects, do not constitute a sustainable program because the rationale for those projects and feedback from clients for whom the students worked would need to be obtained and in most cases were not. Although each program can and should have unique features that reflect institutional needs and resources, as well as the needs of the local economy, programs cannot operate in a bubble apart from the rest of the field.

Johnson's (2004) idea of deep sustainability resonated with us because we were thinking through what it meant to have a programmatic perspective. When we use the term programmatic perspective, we mean the interconnected processes in which TPC PAs and faculty regularly engage. The primary processes are the critical review of programs involving careful deliberation on the nature of programs to better understand how and why they exist and work. Effectively engaging in such activities involves understanding that TPC programs are both locally situated and shaped by field-wide trends in academia and industry.

A programmatic perspective includes considering programmatic relationships: course to course, course to program, program to other academic programs, program to professional field, and just as importantly, all the processes and

documentation that goes with a program for the multiple stakeholders across campus and outside of campus. When considering the work on revising our undergraduate majors, the idea of a deeply sustainable programmatic perspective was useful as we began to map out all the steps and parts that needed to go into our own curricular and programmatic work. But the only models in the literature that even remotely came close to doing this work were models of assessment.

Limitations of Assessment

Even though work on assessment is one area of programmatic scholarship that is rich and ongoing (e.g., Boettger, 2010; Carnegie, 2007; Hundleby & Allen, 2010; Taylor, 2006; Yu, 2012), it has been limited to a small part of what it takes to build and sustain programs. As Meloncon and Schreiber (2017) note in their analysis of capstone courses across programs, assessment is a common practice across programs, but it does not offer a field-wide perspective. In fact, the field asks too much of assessment practices when TPC PAs and faculty expect them to do programmatic work for which they were not designed. Assessment models are typically tied to student learning (and institutional mandates) rather than considering programs holistically. For example, we found no assessment plans that consider faculty staffing, professional development for contingent faculty, or the implications of faculty from other departments and their expectations for the service course. In addition, the same data collection methods used to establish, refine, and test student learning outcomes are likely not useful for marketing an academic program, effectively engaging alumni beyond testing learning outcomes, or determining whether and how an internship program should address industries outside the local area.

Even though some scholars have created sophisticated assessment models, we maintain that these approaches still fall short of providing sufficient data for sustainable programs. For example, Coppola, Elliot, Newsham, and Klobucar (2016) developed an assessment model that attempts to be more holistic than previous models. Using data from Council for Programs in Technical and Scientific Communication (CPTSC) and Society for Technical Communication (STC) initiatives, responses to an alumni survey, and a *programmatic* rubric that includes a question about economic sustainability, this model attempts to include additional perspectives (most notably alumni) in assessing the program. However, the model contains no mechanism for actively and critically maintaining this programmatic perspective (Johnson, 2004). In other words, it perpetuates the assessment-only orientation that we are arguing against because all data gathered from alumni are filtered through only one perspective, individual program outcomes. This emphasis at only considering the goals of an individual program narrows the industry perspectives thus making it difficult to proactively and critically anticipate industry changes. Moreover, it does not include diverse

stakeholder perspectives outside of alumni (such as faculty, current students, or advisory boards).

Other data collection practices, while not university mandated like assessment practices usually are, need to be consistently and systematically collected across programs to help programs work toward sustainability. Here is an example of what we mean. One of the authors of this article completed two alumni surveys for a TPC undergraduate program in the space of 2 years. When she designed and conducted the first survey, the steering committee for the program was interested in how the current curriculum was serving students. Since that particular curriculum had only been in place a few years, the author only surveyed alumni who had graduated in the previous 5 years. The author presented the results to the committee, which also identified and analyzed other similar programs through contacting program directors and looking at their websites. Then another question emerged: What do technical communicators think about the trajectories of their careers and what knowledge and skills do they think will be important in the future? The author developed another alumni survey, this time posing a series of open-ended questions to all alumni from the program, over 20 years of graduates. Thus, the first survey is clearly an assessment of what already exists in the program, but the second survey is trying to help develop a sustainable plan for future change. Both are valuable tools for any program, but seeing both through the lens of an assessment model is limiting, and both rely on alumni from a single program, whose perspectives require triangulation to make broad recommendations for the field and for other programs. Instead, we argue that the field needs a model for systematically bringing together multiple kinds of programmatic data and processes to promote sustainable TPC programs.

We did find one published piece that identifies several data collection practices and diverse stakeholders in program development, showing promise of moving toward what we call a deeply sustainable programmatic perspective, but ultimately focuses on how those efforts affect assessment so we cannot determine if some of these efforts are separate and ongoing. Thomas and McShane (2007) explain how their program developed from a minor to a major and the assessment practices they put in place. They began with an open-ended survey of graduates of the minor to determine interest in having a major and what kinds of courses to include. They also consulted industry and the local STC chapter to get practitioner input and looked at other programs. By including these three stakeholders—alumni, industry, and other programs—they were able to make more informed decisions about whether to expand a minor to a major and if so, what courses to include in the curriculum. In addition, Thomas and McShane (2007) attempt to maintain these multiple perspectives when they created their program assessment. They included academic expertise by using assessment frameworks established in the literature to develop learning outcomes and they included the industry perspective and expertise by incorporating client projects.

However, even though Thomas and McShane's (2007) included different stakeholder perspectives in both building their major and related assessment, their approach was quite localized. Bringing together these data collection practices, such as assessment and alumni surveys, across programs systematically and regularly—_maintenance_ (Johnson, 2004)—would be incredibly helpful for seeing broad trends that would enable the field to contextualize programmatic data with local data.

A variation of continuous improvement models used in industry that we offer later is one way to organize these points of reflection and data collection in productive conversation with each other to achieve this field-wide perspective for programmatic reflection. Programmatic reflection and evaluation, as Johnson pointed out, must look across programs and not simply within them. Academic theories and scholarship are, of course, incredibly helpful and are essential to programmatic work, but scholarship is not a substitute for on-the-ground programmatic data.

Programs need data from other programs to help them contextualize their own data. Thomas and McShane (2007) offered the field a glimpse of the range of data-driven processes and practices necessary to establish a program as well as to maintain representation of various stakeholders in the assessment process. Sustainable programs require that all practices and their relationships be established in programmatic documentation.

We do not dispute the important role that assessment plays in our programs for assessing student learning, but assessment needs to be _one piece_ of a larger and more deliberative process that includes additional data points from different stakeholder perspectives. Fitting other programmatic work within the frame of assessment both muddies the important work of assessment and promotes assessment as an artifact that grounds all programmatic work, rather than an artifact that can be informed by programmatic work.

If assessment practices govern programmatic work, data remain localized and work that should be iterative becomes linear. For example, assessment based on student learning outcomes can test and retest how well students are learning key concepts and skills. Although this process as it is typically used in programs now is iterative, it is also insular. This insularity limits the use of assessment data from being considered in other discussions such as the creation of marketing material or building relationships with community partners. Placing other kinds of department work in conversation with assessment documentation creates both system of communication channels as well as a system checks and balances.

So questions remain: How can we perform the type of iterative programmatic perspective we are calling for? Is there a process or model out there that can help us systematically see all the parts and pieces that impact TPC programs? How can we create a model that is flexible and adaptable enough to take into consideration the many different kinds of institutions and different kinds of programs? Having found no existing model in the TPC literature, we asked

ourselves if a model could be developed to facilitate this type of programmatic perspective? We begin to answer these questions in the next section as we flip the dynamic and turn to the workplace practice of continuous improvement models.

Rationale for a Continuous Improvement Model

Trying to find ways to continuously and iteratively improve TPC programs must center on incorporating additional reflective practices *beyond* assessment, since sustainable program development must include additional information. Since both authors have industry experience, we found our answer by turning to processes used in many corporations: continuous improvement models.

Continuous improvement is a model used in industry to organize several iterative processes and practices in conversation with each other, promoting alignment without sacrificing important deliberation. These models have been used to facilitate communication and work processes across units within companies; here, we advocate their use to facilitate conversations across programs to achieve a field-wide perspective.

Companies have long used continuous improvement models to address sustainability and to organize complex interrelated work processes. Particularly important to efficiency management systems like Lean and Six Sigma, *continuous improvement models* are defined as ongoing efforts to improve the speed or quality of product development, services, or information. The purpose of these continuous improvement models is to provide tools (e.g., value stream mapping) for workplace teams to continuously and iteratively consider their processes and practices and to situate these processes and practices as a set of relations (e.g., Martin & Osterling, 2014). For example, information technology processes and practices should connect to user experience processes and practices and vice versa; the way these processes align and inform each other need to be regularly revisited in order to ensure the established relationships further organizational goals.

Common forms of continuous improvement models include Plan–Do–Check–Act (PDCA) or Define–Measure–Analyze–Improve–Control (DMAIC). These models are often used as a key part of efficiency management techniques such as Lean and Six Sigma management, and the continuous improvement model is used to define and analyze work as a process in order to eliminate waste, to improve performance, to meet customer needs, and to ensure efficient operations (e.g., Eckes, 2001; George, 2010; Liker and Corvis, 2012; Ries, 2011). Tools used in these frameworks (e.g., value stream mapping or SIPOC diagrams) are designed to make workflows visible, cost effective and sustainable. As George (2010) explains, "making processes transparent is a prerequisite for sustainable and real cost reduction, because real, sustainable reductions can come about only through process change" (p. 66). In other words, the overall purpose, according to George, is long-term improvement and effectiveness (sustainability) rather than short-term gains.

Continuous improvement processes come from the scientific management tradition of Taylorism and Fordism, and as Longo (2000) pointed out, TPC is uniquely positioned to evaluate and shape such models. Indeed continuous improvement models have been shaped to meet the needs of organizations, as evidenced by Ries' (2011) three-step model for entrepreneurship. Importantly, as the economy shifted to a service and information economy, Swarts (2008) noted the shift from scientific to systematic management. He argued that the roles texts play in management practices also changes from controlling work, as critiqued by Longo (2000), to "supporting organizational work practices" (Swarts, 2008, p. 17).

The goal of continuous improvement is to visualize work and the related process(es) that shape work. For example, knowledge work like reflection is a related process that needs to be captured and recognized, not at as attempt to control work, but to formalize and guide it. This is not to say that continuous improvement always works perfectly, but, as Longo (2000) posited, the awareness of important tensions like art and science and industry and academic values are important to TPC, and recognizing and identifying all the tensions within and that push on programmatic structures are vital to sustaining programs.

Schreiber (2017) observed a series of Lean trainings that employed the PDCA continuous improvement model, noting the importance the presenters placed on using continuous improvement to develop a sustainable culture. One of the key ways to create a sustainable culture was to encourage all stakeholders to participate in making work processes apparent and visible and to explicitly establish connections between processes. Reflection and refinement of processes is also very important. Although these seem like simple tasks for mature processes and workflows, it can also be used to uncover and develop processes that may not readily be apparent, but were always part of the work. For example, when we think about programmatic reflection and related knowledge work, we quickly identify assessment work, but may not consider the important (and time-consuming) knowledge work of recruitment, marketing, establishing and maintaining industry relationships, and development and maintenance of content, social media management content development and maintenance that are also key parts of a program. Continuous improvement, because it treats the workplace like a system of relations, can help uncover, credit, and situate a range of work processes that are often invisible or overlooked.

Continuous improvement practices are rhetorical and are designed to address the values of a particular industry, usually through measurable processes. As mentioned earlier, DMAIC is used in Six Sigma environments to reduce defects, which is particularly important in manufacturing. PDCA is a similar iterative process that organizes other processes to eliminate wasteful steps. Both of these continuous improvement practices and their iterations are designed to organize workflows by identifying value and waste in a single organization or space. Others have completely rethought continuous improvement (or

continuous deployment) for their particular situation. For example, Ries (2011) has a three-step model that treats entrepreneurship as management and measures customer feedback instead of cost reduction or products made.

We think continuous improvement models, which are designed to facilitate work across units to support the workflow of an organization, can be revised to facilitate reflection and data collection across institutions to support the work of an academic discipline. We wanted a model that would allow individual programs develop their own systems of measurement that would meet institutional requirements but be grounded by a field-wide programmatic perspective. We think that this model will help them make more effective institutional arguments supported by the values of the field.

Continuous improvement can help TPC PAs systematically reflect on their own programs and as importantly reflect with other peer programs. Academic departments, of course, have different concerns than other workplaces, and each degree program has an even more focused level of concerns. For instance, academic programs should not see other academic programs across the country as competition, but as units with which to align as part of a larger discipline. There are several features to programs and majors as well as related knowledge work that contribute to the identity of a program that need to be visible and contextualized across programs, including assessment, marketing and recruitment work, development and maintenance of programmatic content, developing and maintaining industry relations, social media management, and so on. Continuous improvement models can be adapted to foreground these relationships within each program and across programs.

Although a continuous improvement model must include local perspectives—whether or not a program is meeting its objectives (assessment) is but one kind of local perspective—those perspectives have to be analyzed with other data. We are advocating that programmatic reflection should draw on a range of programmatic data, but that all programmatic data and knowledge work ought not be limited to assessment, which creates a tunnel-vision approach to programmatic data collection, analysis, and application, which can create an artificially narrow rhetorical situation that leads to inappropriate power structures (Scott, Longo, & Wills, 2006).

Like any model, including assessment models, continuous improvement models require both thoughtful deployment of and active reflection on the model itself. Adapting workplace continuous improvement models for programmatic sustainability means developing a model that addresses the multiple layers and complexities of a program. The *improvement* is a critical pragmatism that visibly foregrounds and organizes knowledge work involved within and across programs. Critical pragmatism invokes the practical and applied nature of the work and production of TPC, while maintaining a critical view of being able to question and challenge those same productive practices through the lens of

power. In other words, we need to be mindful when applying our models and methods both within our programs and across programs that industry perspectives can be privileged over academic perspectives and other disciplinary forces beyond TPC can shape course content (Meloncon, 2018). Critical pragmatism can be achieved through a continuous improvement model but must also engage the model itself.

A continuous improvement model is a logical solution to organizing programmatic work since such models are designed to be iterative frameworks that assemble, analyze, and align processes and knowledge work. What we offer is a continuous improvement model that promotes sustainable programmatic growth by

- providing an iterative process that can ensure sustainability called for by scholars;
- offering a way to address the multiple identities at play in and across programs (e.g., as degree program and service course provider);
- offering a way to engage industry expectations reciprocally with academic expectations;
- visualizing connections among all processes and knowledge work (e.g., reflection practices) that contribute to programmatic formation;
- recognizing and offsetting the potential tendency to focus too much on the production of texts and skills only to get a job;
- acknowledging and aligning multiple reflective practices, processes, and other knowledge work; and
- moving TPC PAs beyond assessment-only thinking and data collection.

In the next section, we provide a description of an academic version of a continuous improvement model specifically designed for programmatic sustainability.

GRAM Model to Achieve a Deeply Sustainable Programmatic Perspective

Although there are a number of workplace continuous improvement models, porting one of those existing models into higher education would be problematic. They are designed to work in settings that are different than organizational structures of the academy. Since continuous models are designed to facilitate conversations between units in an organization, they do not adequately account for and consider the facilitation of conversations between programs and across institutions. Rather, we use the theoretical rationale of workplace continuous models to design a model that could work within higher education and, more specifically, that can provide a flexible approach to TPC programs that are diverse in types of programs, program orientation, and program location (both departmentally and institutionally).

The continuous improvement model we offer puts into practice the reflection and maintenance work Johnson (2004) called for to create sustainable programs as well as situates the approach for reading landscapes as proposed by Meloncon (2007, 2017a). As a systematic approach to analysis and action, it unifies current programmatic practices (e.g., assessment, course objectives, program outcomes, curriculum mapping, stakeholder identification) by enabling the alignment of programmatic and course outcomes with field-wide curricular practices, while also making these practices and reflections visible in documentation. Sustainable growth, Johnson (2004) argued, must be consciously aware of academic and industry concerns, institutional concerns, and curricular concerns. The intentional deliberation in a continuous improvement model enables sustainability.

To assist TPC programs in achieving deep sustainability programmatic perspective, we created a continuous improvement model, Gather–Read–Analyze–Make: GRAM, see Figure 1.

- *Gather*: the process of gathering together existing data about the program or exposing the lack of existing programmatic information and data.
- *Read*: the process of *reading landscapes* to obtain additional information and to better understand the multiple perspectives that programs must consider for sustainability.
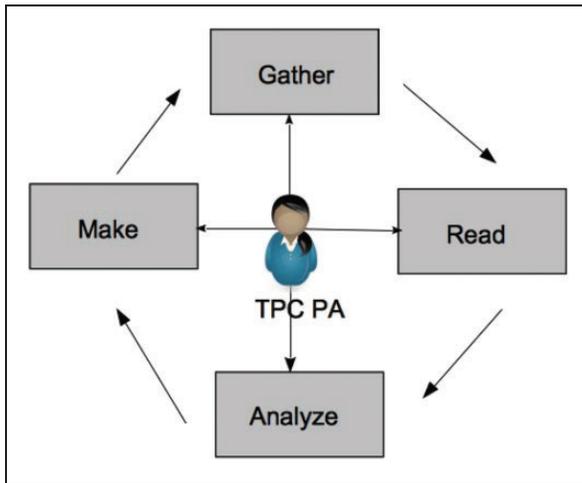- *Analyze*: the process of analyzing together the information from the gather and read steps to.

Figure 1. Steps of the continuous improvement model: gather, read, analyze, and make. TPC PA = technical and professional communication program administrator.

- *Make*: the implementation of changes or the making adjustments to documentation or curricula or processes (or the practice of creating these things if forming a new program).

Placing these steps into a circular pattern emphasizes the recursive and iterative nature of the process. Each part informs the others so as each part is completed, it may be necessary to return to a previous part to revise and refine. This is especially true for aligning and analyzing the data and information gleaned in the gather and read stages.

The GRAM model offers TPC PAs and faculty the flexibility that addresses our diverse locations and programs (as we describe in more detail later) but also fosters a critical pragmatism with which to align practices. This flexibility is a hallmark of any continuous improvement model because it provides a necessary framework for viewing ways to improve while allowing enough room for different types of programs to adjust the steps to fit their unique local situations without losing site of the larger field. This latter point aligns our model designed for TPC programs in higher education to the same theoretical orientation of those found in workplaces, that is, the dual and continuous focus on the local and the global. Because our model is designed to be deployed across programs, and to promote the values of the field, it creates checks and balances across programs as well as within programs. In the next sections, we describe in more detail the four-step GRAM continuous improvement model.

Gather Preliminary Data

The *Gather* step includes gathering together existing documentation about the program to begin to understand what is known about the program both within the department and throughout the institution The most common documents that will likely already be created are things such program outcomes, course descriptions with course outcomes, and assessment reports. Once a TPC PA has gathered the existing data, they need to work toward the following:

- Create a curriculum map of your program outcomes and current courses.
- Create a practical and conceptual skills map of current courses (see Henschel & Meloncon, 2014 for information on how to do this).
- Situate your program within your institutional culture (see Allen, 2010 on how to do this).

At the Gather step, it is important not to get bogged down with aligning course outcomes and redesigning assessment practices. The purpose of this phase is to identify what information exists in documented form, what information is tacit only in people's memories or recollections, and what information

exists but is not formally documented. Without understanding what is known about the program, TPC PAs and faculty will be unable to adequately complete the next steps. Do not begin to revise information at this phase. In the later steps, particularly Read and Analyze, the TPC PA will recontextualize this information because she will be better positioned to make appropriate and sustainable decisions about changes that may need to be implemented (Make step).

For those starting new programs, the TPC PA should start with the second step, Read, to get an idea of what the program might look like before (or while) consulting institutional requirements and stakeholders. GRAM, as with all continuous improvement models, is designed to be iterative and flexible for just this reason because these steps often inform each other.

Read Landscapes

The purpose of the Read step is to identify all relevant processes, practices, and entities that impact the TPC program. This includes any processes and practices at the course, program, department, college, or institutional level that may impact the development or revision of the program. We use the idea of reading landscapes introduced by Meloncon (2007). She used landscape as both a metaphorical and material concept because "it pulls everything together—physical, chemical, biological, human—into a construction frame work that can be analyzed and, therefore, interpreted" (p. 36). Cultural geographers have long taught students how to read and interpret landscapes. Reading and interpreting landscapes can be considered inherently more difficult than the process of reading and interpreting most texts because landscapes are "messy and disorganized, like a book with pages missing, torn, and smudged; a book whose copy has been edited and reedited by people with illegible handwriting" (Lewis, 1979, p. 12).

To read and interpret landscapes, one needs to understand that each classroom is its own unique landscape that comprises students, the instructors, technologies, and subject matter (Meloncon, 2007, p. 37); the institution can be a separate landscape, while the TPC program, yet, another landscape. Each of these instances—classroom, program, and institution—contains their own cultural considerations that would need to be *read* and interpreted.

Although the original heuristic tool offered five landscapes specific to instructors wanting to determine their willingness and preparedness to teach online, we follow Meloncon's recent update (2017a) in which she altered the tool for programmatic administrative use. Figure 2 illustrates a number of key landscapes that need to be considered when approaching a deeply sustainable programmatic perspective.

The landscapes presented in Figure 2 are not the only ones that could be considered, but they are the most common that a TPC PA would need to initially consider. Table 1 provides a series of sample questions for the seven landscapes described in Figure 2.
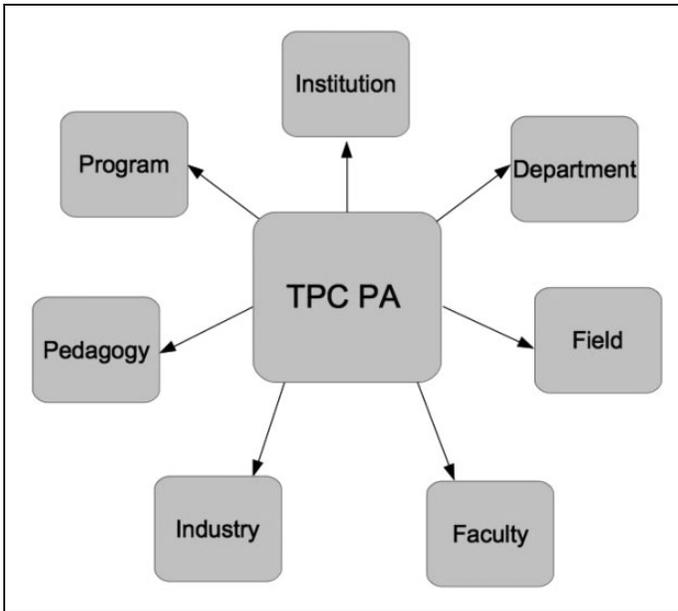
Figure 2. TPC PA landscapes to read for a deeply sustainable programmatic perspective. TPC PA = technical and professional communication program administrator.

Table 1 contains sample questions related to each of the seven most common landscapes. In most situations, there will be additional questions for each landscape, and as one can see, some of the questions overlap between different landscapes. However, this is an important point that underscores the complexities of TPC programs and the necessity to answer the same question from different perspectives. "What emerges from reading landscapes is a series of complex and interrelated questions that enable technical communication instructors and others [such as administrators] to situate themselves and their beliefs ... " (Meloncon, 2007, p. 48). After gaining a better understanding of their existing landscapes, TPC PAs can then move to the next step: Analyze.

Analyze on the Data and Information

The question and answers generated at the Read step are then followed by a "descriptive, reflective response as to why the [TPC PA] answered in such a way" (Meloncon, 2007, p. 46) and more specifically, how the landscape reading relates to the information from the Gather step. For example, let us take the idea of the academic field question about peer programs and how that landscape reading can be analyzed against the curricular information from the gathering step.

Table 1. Possible Questions for a TPC PA Landscape Reading.

Landscape	Potential questions to consider
Institution	Have the program goals been aligned with the institutional and departmental goals?
	What resources are available on campus to assist with program development? (such as community engagement office, technology resources that the program would not have to pay for)
	What resources are available to assist with faculty professional development?
	What limitations or support is there for the learning management system?
	What complementary programs and initiatives exist on campus? Identify complementary departments and institutional stakeholders for all programmatic aspects (course, major, and minor).
	Identify processes for recruitment and retention at the institutional level.
	Identify governing body requirements (e.g., Board of Regents policies relating to duplicate programs within a system).
	Are there sources for funding to provide professional development or other features like sponsoring an industry/student end of year event?
	How does the institution work with governing body requirements for new or revising programs (e.g., Board of Regents)?
Faculty	What are faculty perceptions of program strengths and weaknesses?
	What are faculty specialties and expertise? And how can this expertise matched to that of industry? (Should it be?)
	What theories/concepts need to be taught throughout the program? Provide a rationale. (The answers need to be explained, defined, and justified according to the scholarship of the field.)
	Have program faculty been continuously involved in program development?
	Are faculty receiving professional development to ensure they can make connections between industry and academic perspectives?
	Are faculty receiving appropriate professional development in new tools, technologies, and industry approaches?
Academic field	Who are your peer programs? How do the program curricula match?
	Are local outcomes aligned with field wide outcomes?
	What are current effective practices in pedagogy and are they being integrated into the program?
	What relevant programmatic or content scholarship exists? What trends are emerging?
	Do courses match current trends?
	Are requirements similar to other programs?
	How do faculty expertise align with existing trends in the field?
Industry	What are the local industries the program needs to be aware of?

Table 1. Continued

Landscape	Potential questions to consider
	Who are the local companies that have hired the program's graduates?
	Has the program developed a relationship with local industries to ensure quality projects, internships, guest speakers, etc?
	Has the program developed feedback loops through advisory boards or end of year events with local practitioners (who may be alumni) to provide information back to the program?
	Are there local industries that require specific or specialized skills and knowledges that need to be considered in the curriculum?
Pedagogical	Are there multiple opportunities in the curriculum for students to reflect and to articulate what they are learning or what they have learned?
	Have contextual connections between industry and academic perspective been included in the curriculum?
	Do course outcomes lead logically to program outcomes?
	What content areas are strengths? Weaknesses?
	How can faculty expertise be integrated and aligned into pedagogical goals?
Program	Does the program have clear outcomes?
	Is there a process for creating useful relationships with alumni?
	What processes are in place for recruitment, marketing, and retention? Are those processes clearly defined and do they appropriately connect and overlap?
	How can the program institute a flexible framework that directs faculty and allows them the freedom to still be creative and innovative instructors?
	What processes are in place for proposing, revising, and adding courses to the program?
	What are the policies and procedures for academic advising? For example, is advising internal or external to the department/program? If external, what guiding documentation exists for advisors?
	Have the program goals been aligned with the institutional and departmental goals?
	What service roles does the program have and how do those align with the degree program?
	What considerations need to be made for part-time and contingent faculty?
	How is the program supporting faculty? What ways can we provide sustainable mentoring and observations as a way to provide training and professional development?
	What constraints are placed on the program by the department or is it something of a self-contained entity?
Department	How can the department provide support for the program?

(continued)

Table 1. Continued

Landscape	Potential questions to consider
	What are the structures in the department that help or hinder the development of curriculum for the TPC program?
	What committee structures influence the TPC program?
	Does the program have a specific place in the departmental goals (such as hiring priorities)?
	What is the relationship between the TPC curriculum and other parts of the department?
	Does the department share program support and what impact does this have? (e.g., share an internship program coordinator)
	Are hiring priorities consistent with the needs of the program and the need for faculty expertise?

Note. TPC PA = technical and professional communication program administrator.

Rather than thinking in terms of peer (or aspirational institutions), TPC PAs should determine their peer programs (Meloncon, 2017b). Peer programs would have the same type of student demographic and numbers of students; similar sizes of faculty; similar institutional concerns and landscapes; and offer the similar kinds of degrees. For example, while Some Large Research Institution may be considered a peer institution, if it does not offer the same types of degree programs, it may not be a peer program. A better peer program would be one that offers the same type of degrees, is similar in size, and has a similar theoretical orientation. Once a TPC PA has determined three to five peer programs, she could then look at their curricula in comparison to her own. This analysis may reveal similar identities, theoretical approaches, and pedagogical approaches or it may reveal some stark differences. The continued analysis, particularly in relation to the faculty and department, could determine the program's next steps. Analysis would need to focus on each landscape that was read as it relates to the gathered information. For example, the industry perspective is one that may not be as familiar to TPC PAs another landscapes. A TPC PA would need to identify specific local industries to contact, while also considering how the program could incorporate industry perspectives into courses or cocurricular activities.

Take program alumni as another example of the importance of the Analysis step. Program alumni fit into several landscapes—program, pedagogy, and industry. Many programs contact alumni through surveys or informally every few years to get a better picture of the industry landscape. These relationships need to be conversations, where the respective knowledge (academic and industry) can inform each other. The postgraduation relationship between students and programs needs to be established as reciprocal and important to both parties. Rethinking alumni relations as systematic and sustainable is also

important for establishing and negotiating sustainable academic and industry relationships. Faculty have the opportunity to reinforce theoretical concepts that former students may not realize they are using and alumni have the opportunity to provide rich insights into industry practices. This relationship needs to establish both parties as resources for the other.

Analysis also needs to include an understanding of institutional processes and practices that can directly affect programs such as university requirements for adding and updating courses or departmental procedures for curricular changes. Recruitment and marketing (including brochures, website copy, social media campaigns, etc.) are also likely defined at both the department and institutional level. If there are no formal (i.e., written and public) processes in place, identify processes that need to be added so that formal documentation can be created during the Make step. At the Analysis step, also note the connections between institutional, departmental, and programmatic processes and practices including how they overlap and how they explicitly inform each other. If there are no explicit connections, identity what formal connections might need to be developed.

Make Changes

The Make step revises and stabilizes processes and practices to promote sustainable action. Although this step can improve on processes that are working or determine that no change is needed, it is also meant to be a moment where TPC PAs and faculty can be creative, innovative, and push against the status quo. The benefits of GRAM and continuous improvement models are that it is iterative and meant to be used continuously. Thus, if a new idea, a bold change, or a strategic reenvisioning is not working as well it should, the iterative process of the model—or parts of it—can be completed to determine why a decision is not working and adjust it or change it.

Most important to the Make step, all knowledge work relevant to building a sustainable programmatic identity is made visible and is visibly connected. Part of this visibility is highlighting relationships among academic concepts and industry needs when making changes to curricula or to documentation. Here, TPC PAs should consider ways to make incremental changes to structures and courses; make changes to existing documentation about the program; formalize processes for curricular changes and department forms. In all situations, however, the TPC PAs should also be looking at ways to innovate that align with the data and the local circumstances. All curricular and course practices, assessments, and individual processes are revisited and refined here:

- Revise existing processes.
- Develop new processes according to the needs.
- Eliminate problematic practices.

Part of the changes that programs should consider making is to regularly meet with local companies (as identified in the Read step of industry landscapes). This could be informal lunch or coffee meetings throughout the year or it could be more formal through the creation of an industry advisory board for programs (e.g., Söderlund, Spartz, & Weber, 2017) or inviting them to participate in end of year showcases of the capstone course or other curricular activities.

The key to the Make step is to incrementally make changes to courses, programs, and relationships based on the findings from the Gather, Read, and Analyze steps. For new programs, this is the time to make a curriculum that will immediately achieve a level of sustainability because it is based on deliberative processes that address the complexities that need to be considered in TPC programs. It is also the time to make documentation for the new program that accurately and visibly describes the program's identity and its relationships to all of its stakeholders.

GRAM provides a tool to assist TPC PAs and faculty getting broader and deeper view necessary for programmatic evaluation. It also helps to codify and to document the practices of TPC program administration in ways that assure long-term sustainability. When processes and practices are written down, they enable more comprehensive evaluation and reflection and ensure a firm-starting place for when administrators and faculty change or leave. In the next section, we provide two in-progress examples to demonstrate how to implement GRAM for programmatic evaluation and we discuss how GRAM allowed us to bring together a lot of existing knowledge and administrative practices in a more visible and meaningful way, while also pointing out the many areas of concern that had previously been overlooked.

Two Institutional Examples of GRAM

One of the exigencies that led to this essay was the necessity for a model that would help programs do more than assessment. Both authors were facing complex situations to address what they felt were deficiencies in their programs. The examples that follow are brief and partial due to space limitations, but they should illustrate the power of the GRAM continuous improvement model.

Example A: Capstones, Committees, and Service Courses

Example A is an R3 Research Institution with just over 20,000 students. The TPC program is housed in a writing department, and it is one of the four areas in a writing major and also a minor. The number of students in the writing major is currently 140. The number of students served by the technical writing service course is approximately 225 to 250 each year. There is a coordinator for each area of the major but no overall administrator for the program.

Although the writing major has four areas, including TPC, it does not have explicit tracks. Students are required to take one core course from each of the areas and one capstone. Students can then design other course selections according to their interests and career goals.

GRAM applies to Example A in at least three areas: capstones (department and faculty landscapes), committees (department, faculty, and institution landscapes), and service courses (program and institution landscape). It is currently being deployed explicitly within the TPC area of the major, but other aspects of the program (e.g., capstones) and department (e.g., marketing and recruitment) affect the TPC identity and any initiatives for evaluating and improving that identity (e.g., establishing an industry advisory board or marketing TPC courses). Since the GRAM contextualizes and aligns processes and knowledge work, and other activities that contribute to academic identity, it is appropriate to discuss these items through this lens.

Capstones. At the time of this writing, there are five approved capstones and two pending capstone courses for the entire program. Only one class is an approved capstone for the TPC area. A department committee has approved a single capstone course for the major, but there is no agreed upon approach for this course, and at this time, no faculty member has been assigned to develop it.

Committees. There are at least four formal committees that affect TPC identity: a recruitment committee, a marketing committee, a strategic planning committee, and a curriculum committee. At the time of this writing, there is no formal process for communication or addressing overlapping initiatives among these committees.

TPC service courses and TPC area. At the area level, the Gather and Read Landscape phases has led to a multiyear formal research initiative to interview university and regional industry stakeholders to determine any necessary changes to the two service courses, an appropriate assessment model for the service courses, and appropriate changes to existing TPC courses in the major. For example, an existing research methods course is currently supposed to cover usability, but changes in usability research and practices likely require a stand-alone course.

This initiative involves interviewing stakeholders across the institution, asking about communication trends in their discipline, key deliverables for their discipline, how the current course meets their discipline's needs, and whether there needs to be a dedicated course for students in their field and why. Advisors are asked about how the existing course is explained. The next phase will involve interviewing regional employers and using that data to

analyze existing TPC courses beyond the service courses for the purpose of modifying or adding courses.

The TPC area is iterating between the Gather and Read Landscape steps, but it cannot fully participate in the Read Landscapes phase and move to the Analysis or Make steps without coordinating with department-level work. All of these department-level work affect what TPC can and cannot do, which is a long-standing issue within the TPC (e.g., Dragga, 2010). GRAM also needs to be deployed at the department level because it affects TPC identity. DSPP could help align the department committee work focused on identity. In the iteration between Read Landscapes and Analysis steps, the department and TPC program also need to identify peer programs and reexamine the goals and definition of the major to create a core message for marketing and recruitment. Simply appointing an administrator is not the same as deploying DSPP at the department level; a central administration could be helpful for deploying GRAM, but the work and connections among the processes need to be apparent and visible, and the process when implemented should enable faculty to have more buy-in into the process.

Example B: Balancing Service and Majors

Example B is based on the work at an R1 institution with almost 50,000 students. It is a TPC program that is housed in the English department that offers an undergraduate English degree with an emphasis in professional writing that currently has approximately 130 students. When a new hire is made with the specific aim to *take charge* of an undergraduate degree program, it is clear that the degree program is not meeting the needs and expectations of various stakeholders. In this case, the undergraduate degree program had what looked to be a robust number of majors, but no one within the department seemed satisfied with it in large part because they understood that the major was not coherent. The department also has a large service course commitment that serves almost 4,200 students a year.

The Gather step did not generate much useful material. The program had no outcomes, at least none that were formalized, written down, and shared with students and other stakeholders. Other than two required courses, none of the courses had been taught regularly or with any sort of pedagogical consistency. Thus, there were no course outcomes of note, which made trying to create curricular maps and skills and concepts maps impossible. The Gather step did result in a positive outcome, that is, it was clear that the program needed a dramatic overhaul that was supported by the department. Thus, the decision was made to move to the Read step immediately.

In the initial phases of the curricular redesign, the TPC PA decided to focus on the industry, institution, pedagogy, and faculty landscapes. These were the four main areas that would generate the most useful information for the

Analysis step. Due to space limitations, we will only discuss at length two of the landscapes (faculty and institution) and the subsequent analysis to provide an example of how to begin to implement changes to a TPC program.

Faculty

The program has five tenure line faculty and two full time faculty who have no educational training in TPC. Courses are staffed with a varying number of visiting assistant professors (individuals with terminal degrees but not in TPC), graduate students, and adjuncts who at different times taught anywhere from 40% to 80% of the undergraduate curriculum. This type of faculty diversity in TPC undergraduate programs is not unusual, and the challenge becomes how to find common theoretical grounds for orienting the program and providing sufficient professional development opportunities. It was clear that the faculty would need to come together to work at finding that common ground so that the revised curriculum would work in practice by getting buy-in from the faculty.

In addition, the faculty had little incentive for professional development. Although the faculty were enthusiastic about teaching and wanted to improve the classroom experience for students, they were unable to do so effectively because there was no direction or uniting features between the courses, and with no one specifically in charge of the program, there was little direction on what to do or in what areas faculty may need specific help and attention. It should be clear from this brief explanation how the faculty landscape and the pedagogy landscape will be intimately connected during the Make step of the GRAM model, which at the time of writing has not begun.

The first process within the Make step would be a series of professional development workshops that focus specifically on developing program outcomes and then on collaboratively building curricular maps. The program could ask for help from the institution's teaching and learning center for materials and facilitation (which was determined through the institutional landscape reading).

Institution

One of the most pressing issues at the institutional level (which intersects with the departmental and industry landscape as well) is the need to address concerns with the service course. Much like in Example A, the process will involve visiting with and listening to multiple stakeholders on campus and in the community and bringing back that information to the department and faculty. The service courses are currently not meeting the needs of the other departments (except in one case), and there is an expression of interest to expand the service course offerings. However, any expansion of sections starts the snowball effect of needing additional staff and then providing adequate professional

development and support. Without more information from the Read step and gaining more information on the institutional landscape, there is no way to move forward in a way that is sustainable and useful for the program and department.

Discussion

In both cases, some of the biggest programmatic problems were connected to the lack of an overall vision, which is not atypical within the field. Both programs also suffer from the same problems of not being able to address the multiple identities of TPC within the program (the major and the service course). This was manifested in curricula that had a series of courses but no unifying way to tie the courses together. Thus, the *skills* aspects of each course took precedence because it was an easy way for the faculty to teach the course and help students gain valuable experiences.

The GRAM model is helping the faculty member in Example A gather data and develop processes to support effective change on a number of levels in their program. Although revising the capstone course(s) is on hold while the institution consolidates with another, the work of helping other faculty members in the department see the capstone situation from a field-wide perspective, which includes other interdisciplinary programs, is ongoing. GRAM, which advocates a course to program and program-to-program perspective, also helps situate the capstone as something other than a tool for assessment, the primary critique of other faculty. Further, the faculty member in Example A is seeking to gather stakeholder evidence to support effective TPC pedagogies in the service course. The goal of developing an assessment for this course is to both align pedagogies appropriately with TPC values, to expand stakeholders in the course beyond traditional disciplines beyond engineering, and to provide data to those stakeholders. In this case, GRAM helps situate assessment as a tool to promote the values of the field across the institution.

In the case of Example B, the experience of working through GRAM uncovered that the undergraduate major was not integrated. Rather, it was seen as a set of courses, which is something the faculty knew and that students had pointed out. One of the first steps of reenvisioning that was prompted by GRAM was to understand what *curricular expectations* needed to be addressed in every course. Those curricular expectations (audience, purpose, ethics, culture and diversity, technology use or critique, and actual production of TPC products) was a key shift in reenvisioning because it made explicit for the faculty what the program valued and what each course needed to emphasize. Although the curricular expectations themselves were not surprising or innovative, the move to make these visible, write them down, and discuss them as a faculty was new. In addition, these will be shared with students as a way for them to understand the larger goals of their degree programs and how those goals align

with the outcomes for each course. Making this information more explicit for faculty and students only strengthens the program and hopefully, ensures a more robust learning experience for the students since courses are not more integrated and goals are explicit.

These examples also highlight the messiness involved in programmatic work and curricula development. The examples also illustrate how the diffusion of different parts of the program to different people—and sometimes people outside of the program—can hinder programmatic development. It was the messiness of our local situations that lead us to work toward finding a way that we could systematically evaluate our programs for our immediate needs, as well as have a process for the future. The key to this framework was to ensure that it was flexible and scalable for different types of programs and institutions. The examples here reflect both the scalability and flexibility, and they underscore that GRAM allows for an incremental approach to evaluating and changing programs.

The GRAM continuous improvement model showed all the different forces pushing against each program and to understand how they were (not) working together. The first step in being able to solve or mitigate a problem is having an understanding of what is causing the problem. In approaching programmatic work through the GRAM continuous improvement model, we realized the model helped to mitigate common programmatic problems by providing a tool that encourages the TPC PA and program faculty to reflect on the program from a variety of different angles and perspectives. It also inspired us to think differently and more creatively because we had more information on which we could base any recommended change. We are now better positioned to work with and in our programs to achieve goals and objectives, and more importantly, we have a better understanding of the myriad of factors that influence programmatic decisions. Armed with this knowledge, we should be able to incrementally introduce changes (the Make step) to provide a better learning experience for students and a less frustrating workplace for faculty. In other words, we wanted to develop a sustainable framework for programmatic evaluation.

Conclusion

The GRAM continuous improvement model moves the field toward a unified critical pragmatism, which merges together the pragmatics of preparing students for the world of work with critical, analytic approaches that ensure students are ready to argue for ethical and social positions within organizations. TPC programs have long prided themselves on preparing critical pragmatic practitioners, who are students (and future practitioners) who can reflect and critique and who can also make, produce, and communicate as a key result of academic degrees. TPC programs lack a model to make visible and organize all of the interrelated work and perspectives, including assessment, to ensure that they continue to grow and address stakeholder needs in a sustainable way.

Like continuous improvement models in industry, the model we proposed, GRAM, brings to the forefront the many layers necessary to reveal all the processes, practices, and workflows, internally and externally, that influence programs and their directions. Institutional settings, degree requirements, and industry practices make TPC degrees complex and messy.

GRAM as a continuous improvement model becomes a tool that TPC PAs and faculty can use to create a deeply sustainable programmatic perspective, which is a necessary paradigm shift that goes beyond assessment. GRAM highlights the broad range of knowledge work and practices that affect programmatic identity (including assessment work) so faculty can be appropriately credited for the range of work that they are doing and so that this work also cycles systematically. GRAM productively embraces this messiness, by visibly aligning all of the features of the program with the related work of the department and institution, by considering other programs in the field, and by engaging industry practices and concerns. In so doing, GRAM also emphasizes conscious and deliberate movements and incorporates a needed a temporal dimension of slow and careful consideration. All the elements that affect sustainable programmatic growth are more easily foregrounded and addressed because they are not seen or masked solely through the lens of assessment but through a range of landscapes that all impact, in one way or another, TPC programs and TPC PAs programmatic perspectives.

The steps of Gather, Read, Analyze, and Make are flexible enough to be used by different institutions with different immediate and long-term needs, and they can also be used to develop new programs or revise and expand existing TPC programs. The multidimensional perspective of course and program, academic field, and industry view provided necessary and important touch points for a deeply sustainable programmatic perspective. The results from our own implementation of GRAM have provided us rich data to guide program reviews and incremental changes that ensure the sustainability and viability of our programs. Even though the field's first programs date back some 60 years, TPC still grapples with sustainable approaches and practices, particularly at the programmatic level. GRAM as a continuous improvement model provides TPC PAs and faculty a necessary tool for programmatic sustainability.

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Author Biographies

Joanna Schreiber is an assistant professor of technical and professional communication at Georgia Southern University. Her research focuses on the intersections of management philosophies and systems, project management, organizational culture, and leadership as they relate to TPC practices and pedagogies.

Lisa Meloncon is an associate professor of technical and professional communication at the University of South Florida. Her award-winning research focuses on programmatic issues in the field, research methodology and methods, and the rhetoric of health communication.