

# The “Multimodal Spiral”: Rethinking the Communication Curriculum at an English as a Medium of Instruction Institution

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## Abstract

The rise of English as a Medium of Instruction (EMI) threatens to upend traditional teaching and learning practices. Writing, speaking, and communication instruction will all need to evolve. This article presents a case study of one institution’s efforts to design and implement a communication curriculum responsive to the unique demands of the EMI environment. The curriculum proposed enacts an interdisciplinary, multimodal approach to the teaching of communication. We discuss the specifics of the curriculum, the process of its creation, the principles underlying it, and how these principles play out in practice. In doing so, we hope to provide a model both for global communication instruction and future curricular design efforts.

## Keywords

EMI, communication pedagogy, multimodal communication, curriculum design

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## **Introduction**

Without a doubt, the continued internationalization of higher education, particularly the rise of English as a Medium of Instruction (EMI), threatens to upend traditional teaching and learning practices. Professionals trained in communication, TESOL, and related fields will likely need to develop new skills and institutional identities (Dearden, 2018). Language-centered academic programs, such as English departments, will also need to evolve. At Khalifa University—a science and technology-focused institution in Abu Dhabi, United Arab Emirates (UAE)—a recent institutional reshuffle has provided a unique opportunity to reimagine communication instruction in light of changing needs. In the following, we will present the experience of Khalifa’s English Department as a case study in the design and implementation of a new communication curriculum, one responsive to both specific institutional variables and broader social concerns. Taken together, these factors encourage an interdisciplinary, multimodal approach to the teaching of communication. While the details of the case are unique, we believe that it holds valuable lessons for communication educators, particularly those working in multilingual contexts. To tease out these lessons, we will discuss the department’s new curriculum, the process of its creation, the principles underlying it, and how these principles play out in practice. We will then discuss how the case might inform communication scholarship.

## **A New Opportunity**

EMI education, in broad strokes, denotes content instruction delivered in English, to a student population, the majority of whom are nonnative English speakers (Macaro et al., 2018; Pecorari & Malmström, 2018). While English proficiency may increase during the course of EMI education, in the EMI paradigm, language learning and increased communication proficiency, in general, are often viewed as a second-order good rather than one to be systemically pursued (Pecorari & Malmström, 2018). Concerns have been raised about how EMI has been implemented, as well as student and instructor English proficiency impeding learning. That said, EMI instruction is on the rise. Driven by political and economic demands, within the past decade, EMI programs have proliferated across Europe, Asia, and the Middle East (Macaro et al., 2018).

As defined above, the education offered at Khalifa is EMI education. English is the university’s “official language of instruction and assessment” while the home language of most of its students is Arabic. As noted, explicit language learning is often deprioritized in EMI contexts. Indeed, at Khalifa, students are expected to enter university with sufficient English proficiency to succeed in content courses. Fortunately, though, the undergraduate curriculum makes ample room for the cultivation of communication skills. Following a recent institutional realignment, a new set of general education requirements was introduced by which all students must take three communication-focused courses (nine credit hours) within the English department. These courses

consist of a mandatory two-course composition sequence and a reading- and writing-intensive elective. This new setup established English as a key component of the undergraduate experience. It also demanded a curricular redesign.

Viewed as a case study, Khalifa's curricular design efforts can inform the communication scholarship in a number of ways. Of late, communication scholars have increasingly moved to engage diverse student populations (Strawser & Sellnow, 2019). The intersection of communication instruction and EMI has yet to be explored, though. The current study helps fill this void. It suggests that one possible form communication instruction might take within the unique ecosystem of the EMI university. The EMI space is by definition a multilingual space. The design work undertaken and subsequent analysis of that work thus also respond to recent calls, particularly in technical communication, to better "understand and sustain multilingual experiences" (Gonzales, 2020, p. 461).

By tracing how the new curriculum was created, and the various theoretical strands informing it, the present study might moreover serve as a model of interdisciplinary cooperation. As will be shown, the redesign process implicated ideas and experts from applied linguistics, technical communication, literature studies, and a variety of other fields. The result was a productive synthesis. Communication studies, of course, have a long history of "reflective scholarly partnerships," particularly in Communication Across the Curriculum (CXC) and Communication in the Disciplines (CID) initiatives (Dannels & Gaffney, 2009, p. 124). This study reveals similar practices within an EMI environment. The specific ways the events depicted speak to CXC and CID concerns will be discussed in the final section.

## A Complex Mandate

The site of this case study is a science and technology university in the Middle East. Approximately 3,000 undergraduates pursue degrees in fields such as aerospace engineering, biomedical engineering, chemistry, and mathematics. They do so within a complex linguistic environment. The UAE, like other Gulf states, is a radically multi-ethnic country, with almost 90% of the population of non-Emirati origin. While Modern Standard Arabic is the official language, a variety of Arabic dialects circulate (Hopkins et al., 2021). English, in turn, acts as a "*de facto* lingua franca" (Siemund et al., 2021, p. 192). Government policy heavily promotes English, with the language being lauded as key to the country's economic success. English has thus come to permeate education in the UAE at all levels (Siemund et al., 2021).

Recently, scholars have begun to theorize the UAE's unique linguistic situation through the lens of translanguaging (al-Bataineh & Gallagher, 2021; Hopkins et al., 2021). They argue that young Emiratis, rather than upholding strict boundaries between languages, deploy varied linguistic resources in combination, displaying what Sarah Hopkins et al. (2021) call a "grassroots hybridity" (p. 176). As noted, Khalifa students are mainly Emiratis. Due to the university's selective admission standards, they are often highly motivated and academically adept (see Khalifa, n.d.-a). They are also tech-savvy, immersed in English-language media and online spaces.

Given these factors, the redesign was informed by a belief that Khalifa students are, on average, sophisticated users of communication resources, including (but not limited to) English.

The above is not to say that Khalifa students do not need or cannot benefit from communication instruction. In redesigning the curriculum, though, reductive “native/nonnative” notions of language proficiency would need to be avoided. Per the new general education requirements, the department’s mission became “to prepare students for success with their Science or Engineering degrees and to support their long-term development” (Khalifa, n.d.-b). Specific learning outcomes asked that students be able to “read, write, and communicate appropriately for professional and academic purposes,” as well as “exhibit information literacy skills,” apply a “critical approach to argumentation,” and develop “an appreciation of the diversity of the human experience” (Khalifa, n.d.-b). As the varied nature of these outcomes suggests, the department’s new curriculum needed to cultivate technical communication skills as well as achieve humanistic or “liberal arts” goals.

It was understood that the new curriculum needed to align with the science and technology focus of the university. That said, too much emphasis on a defined set of professional skills would be inappropriate for first-year university students. In modern communication environments, genre norms and required competencies are constantly shifting. Rhetorical sensitivity and flexibility—the ability to understand and adapt to new communication contexts—thus emerge as primary virtues (Dusenberry et al., 2015). As Kedrowicz and Taylor (2013) argue, the cultivation of these high-level attributes can be hindered by pedagogies that suggest that “communication can be reduced to a formula” (p. 87). To focus too intently on the norms and competencies of specific courses or workplaces runs this exact risk.

It was ultimately decided that the revised curriculum would be informed by the tradition of English for Specific Purposes (Parkinson, 2013; Trace et al., 2015). This tradition holds that language is “dialogic and situated... a mosaic of registers and genres organized around specific domains of social practice” (Prior, 2013, p. 520). To avoid overspecialization, the relevant domain of practice would be science and engineering, broadly conceived. Texts and themes explored would relate to this domain, as would the genres students compose.

To ensure continuity of instruction, the revised curriculum would follow a “spiral” design (Bruner, 1960; Harden & Stamper, 1999). As students progress through the program, previous skills, topics, and themes are revisited in increasingly complex instantiations. New learning thus builds on what came before. Progression is most pronounced across the two core courses, with skills and tasks explicitly replicated. The third required course, the English elective, provides students an opportunity to use their new skills to engage higher-level content. At each stage, topics and themes related to science and engineering are foregrounded. Language ability, genre, and content knowledge thus grow in unison.

## **Beyond Language**

Along with moving beyond reductive notions of language proficiency, the new curriculum, in some sense at least, needed to move beyond language altogether. There is little

doubt that science communication has long been multimodal, with textual, visual, and verbal modes operating together to convey meaning (Northcut, 2007). Multimodality is a complex and much-theorized topic but, in simple terms, can be defined as the integrated use of multiple communicative modes (Elola & Oskoz, 2017). Modes, according to Kress (2005), are “culturally and socially produced resources for representation” (p. 6). Though specific taxonomies vary, text, image, sound, gesture, and design are most always included. Unfortunately, according to Prior (2013), language learning in general and ESP in particular have been hampered by a fetishization of linguistic forms (see also Canagarajah, 2018; Plastina, 2013). A similar situation pertains in communication studies. As Martin and Gaffney (2016) argue, when verbal or other nonlinguistic modes have been discussed in the literature, more often than not they have been presented merely as “add-ons” to verbal communication. English studies have done little better, consistently forwarding text at the expense of other modalities (Selfe, 2009).

With technological change remaking the semiotic landscape, any unimodal disciplinary orientation now appears ill-advised. In English studies, in particular, over the past 20 years, a broad wave of scholarship has persuasively argued for a move away from discourse-only conceptions of literacy (Dressman, 2019; Kress, 1999). The key idea is that technological change, particularly the rise of screens, has fundamentally altered the relationship between communicative modes. Whereas text was once dominant and the visual, verbal, and other modes were merely supplemental, the modes now stand on equal footing. Similar arguments have been made in communication studies (Dusenberry et al., 2015).

In terms of curricular design, an embrace of multimodality is necessary for reasons both practical and theoretical. At the most basic level, young people nowadays simply need multimodal communication competency (Elola & Oskoz, 2017). Instruction should fulfill this need. There is also congruence between multimodal composition and rising theoretical trends, particularly translanguaging. As noted, within the translanguaging paradigm, heterogeneity is seen as the norm. Rather than striving for linguistic purity, multilinguals are shown to deftly mix dialects and languages, as well as environmental resources, to achieve communicative goals (Canagarajah, 2018; Shin et al., 2021). In light of the shifting semiotic landscape, and the easy availability of sound, image, and video composing technologies, these “environmental resources” increasingly implicate nonlinguistic modes.

Multimodal competency is especially important in EMI contexts. As noted, a common concern in the EMI literature is insufficient language proficiency hampering content learning (Dearden, 2018; Macaro et al., 2018). Skillful deployment of multiple modes can help learners overcome proficiency issues. Canagarajah (2018), for instance, has recently shown how broad “spatial repertoires” of various modal elements can help even low-proficiency language users engage in high-level intellectual work (p. 7). Along similar lines, Jiang (2017) describes how engagement with multiple modes can help learners overcome linguistic weakness. Working with video, for instance, students can review, revise, and share their compositions in ways otherwise unavailable. The result is increased communication, connection, and understanding.

All told, for myriad reasons, it was felt that the new communication curriculum at Khalifa had to systematically engage students in multimodal composition practices. The creators of the new curriculum wanted students, as Elola and Oskoz (2017) write, to view themselves as “active designers,” capable of selecting from and combining a broad range of semiotic resources to achieve their communicative goals (p. 55). In practical terms, this means explicit instruction in multimodal composition skills as well as exposure to a broad range of digital tools and genres. Like other elements of the curriculum, multimodal tasks would need to grow in scope and complexity as students progressed through the course sequence.

## **A Multimodal Spiral Curriculum**

In sum, in the case at issue, curriculum designers needed to account for a broad, multipronged institutional mandate, a sophisticated student population, and a shifting semiotic landscape. They also needed to meet these challenges with a rather unique teaching staff. Khalifa University was recently formed from the merger of three separate institutions. Thus, the English department faculty is unusually diverse. Communication professionals work alongside literature scholars and educational philosophers, among other specializations. The curriculum, therefore, has to be customizable. It has to allow individual instructors space to pursue their own interests but, at the same time, ensure that a shared set of learning outcomes are met.

In fall 2019, a committee of faculty members was formed to tackle the challenge of curricular redesign. This committee was chaired by Mark Dressman, whose scholarship influenced the project. Its first step was to articulate a set of core learning outcomes in the form of literacy skills in which all STEM students needed to be proficient. These skills would form the base of the department’s shared pedagogy. The final list included skills such as the ability to make data-supported arguments, conduct online research, and paraphrase texts (see Appendices 1–3 for a complete list of skills and assignment outlines). In the new curriculum, these basic skills are introduced early in English 101 via a series of short writing assignments. They are further developed in two larger assignments in English 101 and another two still larger and more extensive assignments in English 102. An additional set of more complex skills are also introduced in English 102. The required English elective, the third course in each student’s English department journey, further develops these core competencies. Multimodality is emphasized throughout the course sequence. Students are expected to hone textual, visual, and verbal communication competencies simultaneously.

To provide continuity within the core courses, the design committee developed and propagated assignment outlines. For example, the first major assignment in English 101 needs to be an argumentative research essay supporting or refuting a claim. It needs to be approximately 1,000 words and use IEEE citation format (the university standard). Topics and themes are to involve science and technology. Thematic courses (e.g., “space exploration” or “sustainability”) are encouraged but not required.

Integrally, apart from these general guidelines, instructors are free to teach to their own strengths and interests. This combination of required skills, assignment outlines, and general course-design flexibility, it was hoped, could provide shared structure without stifling innovation.

Of course, proof of a curriculum's worth can only be found in the classroom. To show how the general guidelines sketched above play out in practice, the following sections describe the experiences of two instructors assigned to teach the department's new curriculum. One of the instructors (Carbonell) is a literature scholar with 8 years of teaching experience in the Gulf region. The other (Overstreet) is a writing specialist with 3 years of experience. To make sense of their experiences, these scholars first wrote personal narratives describing their teaching activities. These narratives were then studied and revised by Overstreet and the third author (Akhmedjanova) to highlight key themes and points of connection. As will be shown, while working with a shared set of assignments to promote a shared set of skills, these teachers enacted different, yet equally effective, pedagogical visions.

## **Communication as Technological Critique: The Pedagogy of Curtis Carbonell**

### *Background and Theoretical Orientation*

Carbonell has taught Khalifa's core sequence since 2013. While students in his classes are typically Arabic speakers, his scholarship is far outside the discourse of language learning, involving instead analysis of how technology is depicted in popular media. The account of his pedagogy below shows how he combines communication study and a critique of technological representation in the EMI environment.

### *English 101*

English 101 at Khalifa begins with a series of short assignments designed to introduce basic academic literacy skills. In Carbonell's class, over the opening weeks of the semester, there are four writing assignments, each of which builds on the other. These assignments center on a text in which scientific data are used to further an argument. Students interrogate the way this data are used, the ends this use furthers, and how those ends connect to larger issues of culture, technology, and the human. Students are asked to take a step back from the text and view it as a purposeful object with a discernable structure. The importance of *interpretation* is foregrounded. To "interpret," in Carbonell's pedagogy, means explaining the significance of data, maybe in reference to a study that produced specific results, maybe in reference to broader discourses or philosophical questions. By emphasizing the omnipresence of interpretation, his pedagogy foregrounds the methodology of the humanities as distinct, and valuable, within STEM.

In line with the general assignment guidelines, the short tasks, in Carbonell's version of English 101, are followed by a refutation of a false claim related to

technology and then a description of a technological object that covers a wide range of foci. While each of these assignments could be taught decontextualized (i.e., disconnected from each other), Carbonell has found that placing them within a unified frame, such as “disruptive technologies” or “emerging technologies,” and encouraging each student to focus on a single topic for both, ideally connected to the text worked with earlier in the semester, allow students to transfer language, ideas, and content knowledge between assignments. This results in more sophisticated compositions.

The last assignment in this version of English 101 is a multimodal representation of the ideas each student has been refining all semester. This capstone “bridge” assignment asks students to articulate a controlling idea that has emerged through their other assignments and to represent it through voice and image. Students are told that their composition should function as a multimodal argument with cohesive parts that, taken together, provide a unique perspective on the relationship between humans and technology. While compositions most often take the form of narrated PowerPoint presentations, videos, animations, and illustrations are also often deployed.

## *English 102*

Carbonell’s emphasis on the interpretative process within STEM finds full articulation in English 102. In line with the department’s new assignment guidelines, his version of English 102 is organized around four major tasks: (1) a technical report, (2) a response to a request for proposals (RFP) in the form of a web-based digital portfolio, (3) a presentation reflecting on the process of composing the technical report, and (4) a “presentation/pitch” that summarizes and remediates the RFP. The RFP prompt will correspond to the theme of the course; for instance, it might ask for proposals that address global problems through engineered solutions involving emerging technologies. Responses would then need to suggest innovations researched within such fields as biotech, nanotech, robotics, or artificial intelligence.

In the process of responding to the RFP, students are first asked to draft a “technical report”—a primarily textual document, supplemented by charts, images, and design features—that provides a detailed description of a pressing problem and proposed solution, as well as a thorough review of the scientific literature regarding the technologies discussed. The goal of the literature review is to display a firm grasp of the current state of these technologies. In doing so, students are asked to focus on solutions that can be realized within the next few years. Articulating feasible technical solutions to real-world problems can be challenging for first-year college students. Even if the solutions are not fully formed, though, their expression gives students an idea of what might be possible in their future work as scientists and engineers. To encourage reflection on their projects, what they learned and how it might be of use in the future, after drafting their technical reports, students each give a short multimodal presentation discussing their “research journey.” They share with the class their problem, solution, and the often-winding path they took to arrive at that solution.

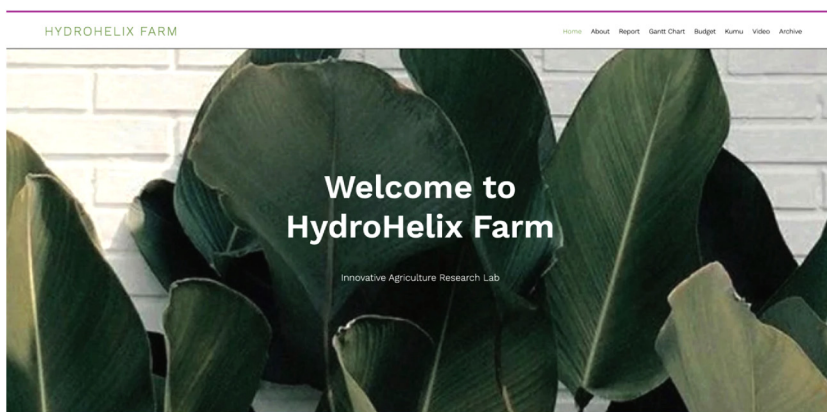
The technical report, once complete, is integrated into a digital portfolio which, taken as a whole, constitutes each student’s response to the RFP. Students use a



website builder such as Wix to create this portfolio. In the student work presented below, we see a proposal for a “Hydrohelix Farm” (Figures 1 and 2). This project proposes a solution to the problem of how to grow food sustainably that is predicated on a wider need for the cleaning of contaminated soils, along with new forms of sustainable water consumption because of dwindling resources. It presents hydroponics, 3D printing, and vertical farming as cost-effective solutions that avoid the need for traditional soil-based farming. The students propose to replace soil with a helix-formed structure of specially designed materials that holds nutrients and water.

Along with the technical report, students create, and integrate into their digital portfolio, a budget document dictating how much their project would cost and the resources required (Figure 3). They also create a Gantt chart indicating the subtasks involved in their project, how long these tasks might take to complete, and the required order (Figure 4). While English 102 is not a financial-planning or project-management course, the revised English curriculum mandates inclusion of these elements. The underlying thinking is that basic budget and project management skills—and familiarity with the associated genres and digital tools, particularly spreadsheet software—should be part of every STEM student’s communication toolkit.

Students also engage their proposed project via the relationship mapping tool, Kumu. This free digital tool allows users to organize data into networked maps, which visualize the number and extent of relationships among various elements (Figure 5). Students use Kumu to map relationships among the tasks, subtasks, and required resources within their project. Kumu is used both because it allows students to experiment with a novel multimodal genre (i.e., the networked relationship map) and because, in doing so, they can come to understand their project on a more granular level. In the case study, for instance, the student’s relationship map reveals how hydroponics are related to watering and to nutrients, along with vertical planting and the need for the construction of geometric shapes in the form of a helix. The visualization



**Figure 1.** Front page of a student’s digital portfolio.

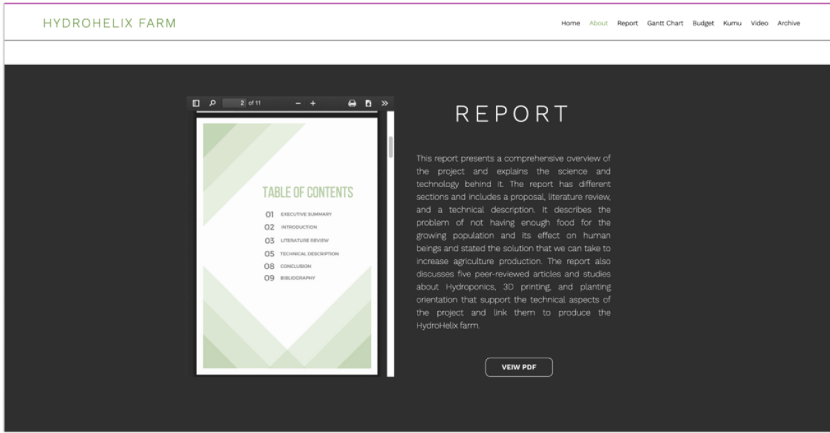


Figure 2. Report integrated into website in PDF format.

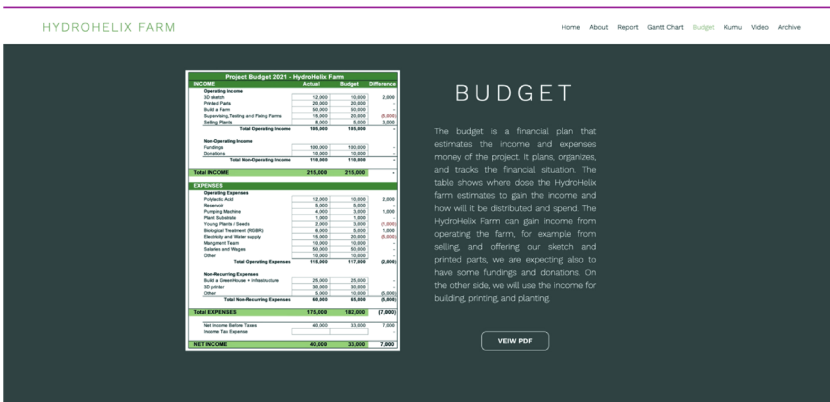


Figure 3. Budget integrated into digital portfolio.

of the connection between the subtasks reveals the need for 3D-printing techniques to make the elements work together. In other words, by visualizing her project, this student was able to understand it in a new and more complex manner.

Over the course of English 102, each student’s digital portfolio becomes a rich archive of disparate multimodal artifacts organized around a central theme—the importance and feasibility of the project they hope to have funded. As a capstone assignment, students are asked to capture the thrust of their proposal in a short video or multimodal presentation, similar to the work requested at the end of English 101. This presentation involves summary and paraphrase—key communication skills practiced throughout the course sequence—as well as remediation, the

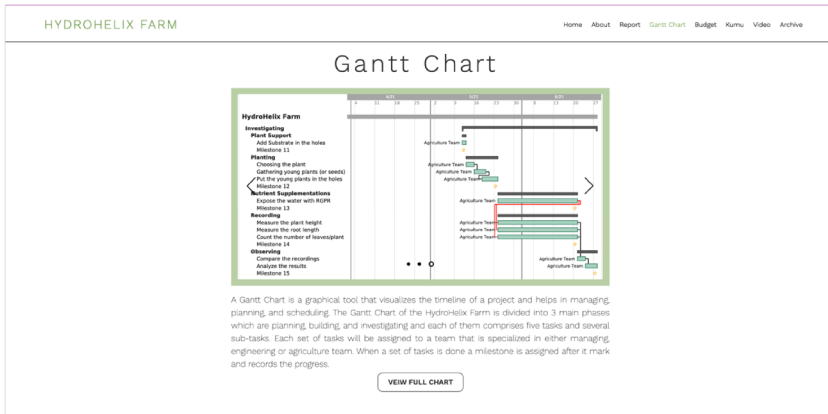


Figure 4. Gantt chart integrated into digital portfolio.

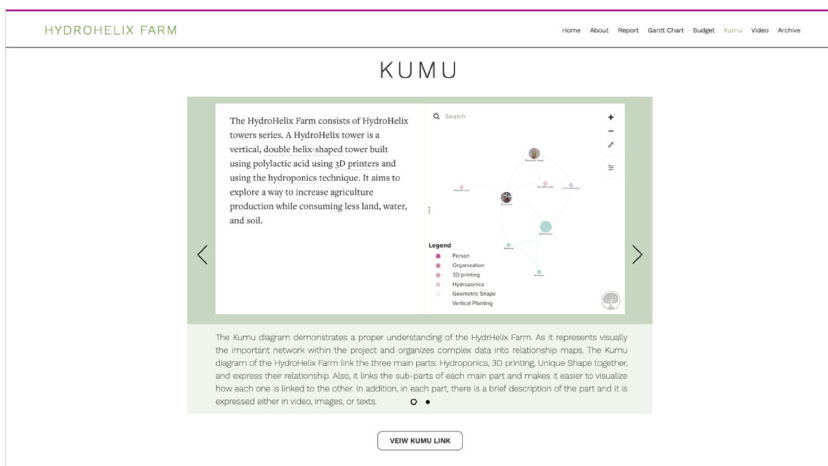


Figure 5. Kumu relationship map integrated into digital portfolio.

transfer of ideas to a new medium, and set of communicative modes. In addition to engaging the content of their work, though, the final prompt also asks that students discuss the structure and rhetorical strategy behind their digital portfolio. For example, students need to discuss the component parts and how they understand them as working together to achieve the document’s overall goal. In this action, we see a return to a key feature of Carbonell’s English 101 pedagogy—students are once again asked to take a step back from a text and to view it as a purposeful object. The text at issue this time, though, is a complex multimodal, multigenre composition they themselves created. In this return to earlier practices, now enacted with

increased complexity, we see an example of the “spiraling” motion with which teachers at Khalifa infuse their pedagogy.

Ultimately, at the end of the semester, each student’s digital portfolio makes visible various milestones in their thinking and learning process. Via its creation, they have gained experience with a wide variety of digital tools and digital genres, both textual and multimodal. The goal of the course, though, is not necessarily to master any specific set of tools or genres. Instead, it is to help students articulate increasingly complex ideas about technology and its applications via a variety of multimodal communication techniques.

## **Communication as Problem Posing: The Pedagogy of Matthew Overstreet**

### *Background and Theoretical Orientation*

Overstreet is a writing studies scholar. His pedagogy is based on principles derived from the philosophical school of American pragmatism. This tradition holds that intellectual growth originates in engagement with problems, particularly the “ill-structured” kind of which there is no single, well-defined solution.

### *English 101*

Initially, the problems students encounter in Overstreet’s class are small and self-contained. For instance, he may present students with a photo of art patrons enjoying Maurizio Cattelan’s infamous art installation, *Comedian* (Figure 6). Based on these data, students are asked to explain, “What is art?” There is no single correct answer to this problem or pre-designed procedure one can use to reach an answer. It is thus classically ill-structured. To solve the problem presented, students must carefully scrutinize the available data (the photo) and draw on that data to formulate and socially justify a claim. In other words, they must practice data-supported argumentation, one of English 101’s core learning outcomes.

The above assignment may seem out of place in a science and technology university; a case can be made, however, that the work demanded is of particular value for STEM students. First, the task demands accurate and precise description of data—a much-needed skill for scientists and engineers. Second, it makes clear the importance of attentive, open-minded inquiry. Attempts to force a canned definition onto *Comedian*—art is “a powerful expression of the emotions” or something similar—will inevitably fail. The idea that one must work with what is there, rather than what one wishes were there, will hopefully carry over to the laboratory or clinic. The task also illustrates the inherently rhetorical nature of technical and scientific writing. As in Carbonell’s classroom, students are asked to recognize that stating “the facts” while necessary is never sufficient. Without interpretation—a story that answers a socially valid research question—data itself are useless. As they see the various ways that the same data can be used to support a variety of claims, this is made apparent.



**Figure 6.** Art patrons view Maurizio Cattelan's *Comedian*. Source: [Twitter.com/Artnet](https://twitter.com/Artnet).

The “What is art?” task occurs early in the semester and helps introduce students to the basic principles of scientific argumentation: claim, description, and interpretation. Similar problems provide the opportunity to learn and practice writing about numbers, summary, citation, and other skills. Throughout these assignments, the currency of the course is elaborated prose: spoken or written language that strives to make explicit logical connections. Elaborated prose is, of course, a powerful thinking and communication tool and essential to the work of science. As discussed above, though, students now need to be able to work in a variety of modes and, equally important, combine modes in a synergistic manner.

In Overstreet's version of the core course sequence, multimodality is first introduced in the second half of English 101. The concept of “modes” and how combining, or “layering,” different modes can increase audience engagement and comprehension are explained. Students begin layering by introducing images, simple charts, and design elements into their textual compositions. Later, they are asked to remediate a 1,000-word argumentative essay, one of English 101's core assignments, into a 3-min self-running slide presentation. Like other components of the core curriculum, this task is designed to serve multiple ends. Students not only get a chance to practice public speaking but also gain familiarity with key digital tools and the basics of multimodal design. Issues of audience and context are foregrounded. The audience, in this case, are other members of the class. Via a reflective writing assignment, students consider how they might use a combination of modes to inform, engage, and ultimately persuade this group. Via peer review, they get feedback as to the efficacy of their techniques.

In line with the spiral nature of Khalifa's curriculum, overtime, the problems posed and solutions offered in this classroom become more elaborate. Students begin to incorporate multiple sources and data points into increasingly complex genres.

Rather than being given research questions, they begin to develop their own. To see how this dynamic plays out in practice, it is necessary to examine the capstone assignment of the English 102 course.

### *English 102*

As noted, English 102 is centered on two major assignments: a technical report and a proposal offered in response to a RFP. In this version of the course, the proposal is the final assignment and completed in small groups. Given the flexible nature of the curricular guidelines, a “proposal” could take various forms. In Overstreet’s classroom, students present their proposals as multimodal reports, multipage documents incorporating written elaborated prose, images, graphs, and various design elements. This genre is chosen for its accessibility and the general applicability of the skills used in its creation. Students usually draft their reports using Microsoft Word or the online design tool, Canva. These tools are readily available and can be used for a wide variety of applications, thus making facility with them of added value.

The proposal project could be centered on any number of themes or topics: Overstreet has students write about urban design. Specifically, they are given an RFP asking for project proposals that seek to “reimagine the urban landscape in order to improve the quality of life of UAE residents.” Students are asked to choose a site and then design, present, and justify a project to renovate or build something on that site. This prompt is designed to be open ended. The proposed project has to be feasible and cost under 25 million UAE dirhams (around \$7 million USD). Apart from that, though, students are free to be creative and draw on their understanding of the needs of the communities in which their sites are located. Parks, gyms, and cafes are commonly proposed.

A common theme in this version of the core sequence is the importance of “listening to your data” and allowing the story you tell to grow out of that data. For their urban design project, the story students need to tell is what their project will entail and why it is of value. To formulate answers, they collect and analyze data derived from both primary and secondary source research. They make multiple trips to their site and engage in a series of structured research activities, including a “site survey” in which they photograph and measure the site, and in-person interviews with area residents in which they determine local needs. Once they have an idea of what they would like to build, students contact local contractors and vendors to determine costs. They supplement these findings with secondary source research, for example, academic articles about the economic or social benefits of the sort of structure proposed.

As the data with which students are expected to work grow in kind and complexity, so does the students’ presentation of that data. In line with the spiraling nature of the curriculum, themes such as the layering of modes resurface but in increasingly complex forms. On a single page of their final project proposal, for instance, students may combine image, elaborated prose, captions, and design features such as headings

and subheadings (Figure 7). They may use charts and graphs to present data gained through empirical study (Figure 8). They may also use 3D modeling software, such as SketchUp, to visually illustrate their designs (Figure 9).

Though the proposal project results in a complex document, by this point in the semester, students are familiar with the required competencies. They have made enough charts and received enough feedback, for instance, to know the importance of using bold headings and informative captions. They know how to use subheadings to make a complex text “scannable” for the reader, how to conduct online research and how to make an argument with numerical data. So, rather than introducing any of these skills, the proposal project, as the capstone in this version of the core course sequence, simply provides an opportunity for students to put what they have learned to work in a realistic, purposeful, and hopefully interesting, problem-solving setting. In designing Khalifa’s new curriculum, Dressman (2021) states that the overall goal was to reconceive communication instruction as a “fully experiential, supra-linguistic process.” The proposal project, along with the other assignments in the course, seeks to actualize this vision.

## **EMI and Multimodal Communication: An Ongoing Experiment**

The previous sections detail the experiences of two instructors assigned to teach Khalifa University’s redesigned communication curriculum. These instructors approach the teaching of communication from very different perspectives: technological critique versus problem posing. Their practice is united, though, by a shared set of assignments, as well as a commitment to enacting the multimodal and spiral themes that define the new curriculum.

The curriculum depicted is grounded in a belief that multimodality in communication instruction can be of great value, particularly to language learners. In learning to work with and express themselves via image, sound, video, and design—in addition to conventional textual and verbal modes—students can overcome linguistic weakness, gain confidence, and ultimately, establish themselves as skilled communicators. The student work displayed in the above pages evidences this fact. Likewise, during the first 2 years, the new curriculum has been in place, both instructors reported receiving positive student feedback. Engagement increased and quite a few latent talents—for art, design, and multimodal composition—emerged.

Admittedly, any claim to the success of the new design is anecdotal: a larger, systematic review of the curriculum is currently ongoing. That said, the case can productively inform communication scholarship. First off, this case study answers calls for more attention to multimodality and visual design in the communication classroom (Dusenberry et al., 2015). Multimodality is an important part of human experience, especially in technical and scientific endeavors. The specific pedagogies depicted offer practical suggestions for how—and why—multimodality

## HAVING A PUBLIC LIBRARY &amp; A COMMUNITY GARDEN IN M.B.Z. CITY

## SELECTING A SITE

One of the group's main goals was to find an active site that is visited by many people throughout the day. This thing would ensure that many people will have benefits from the built facility. After various research that was done through Google maps and visiting different locations in Abu Dhabi, the group found a site of a 1095  $m^2$  (Figure.1). This site is located in an active area in Mohammed bin Zayed City, and it's surrounded by many commercial villas and facilities like Creative British School and Mohamad bin Zayed city garden. Besides, the site overlooks Al-Anwar main road (Figure.2), where many cars pass through it every day. All these features ensure that the site is located in an active area, which achieved the group first goal.



Figure 1: A picture of the chosen site. From the left of there is a restaurant of two floors while from the back and the right there are residential villas of two floors.



Figure 2: A picture of Al-Anwar main road and the other residential buildings.

**Figure 7.** Effective “layering” of modes and design elements.



## GATHERING DATA

### OBSERVATIONS

After choosing the site, the group have primary research to study the site and the surrounding areas. This research was done through three methods which are observation, interview and survey. In the first method, a group member went to the site to observe it and take notes. Based on the results, the site seems to be in a quiet area, as no noise would disturb the site's quietness. Besides, the weather was acceptable as there was a gentle breeze around the site. However, the weather, in general, is changeable and often hot in the UAE. Therefore, building a closed facility would be more efficient. Based on observations, 67% of the people who passed through the site were adults talking on their phones or just walking, followed by teenagers (22%) who were riding bikes (Figure 3,4). These data indicate that teenagers and adults are the most people who visit the site. Therefore, the facility should focus on serving these two groups of ages.

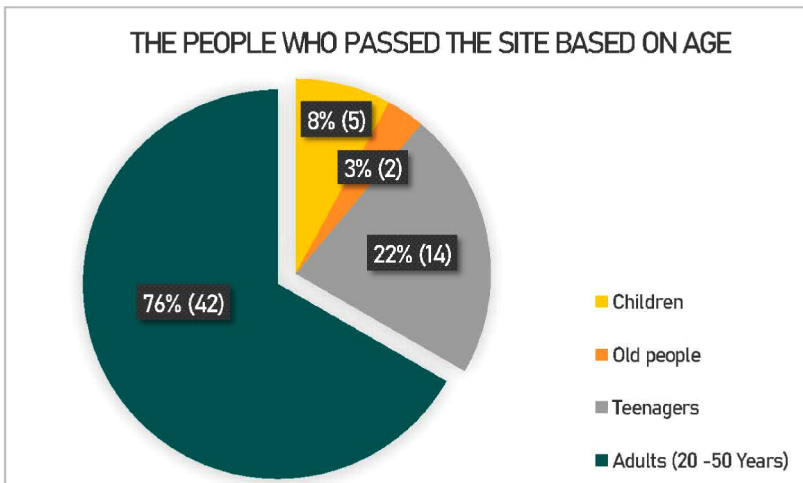


Figure 3: A chart that shows the people who passed the site based on age. The chart shows that adults come in the first place followed by teenagers, children, and old people.

Figure 8. Visualization of primary source data.

## HAVING A PUBLIC LIBRARY &amp; A COMMUNITY GARDEN AT M.B.Z. CITY

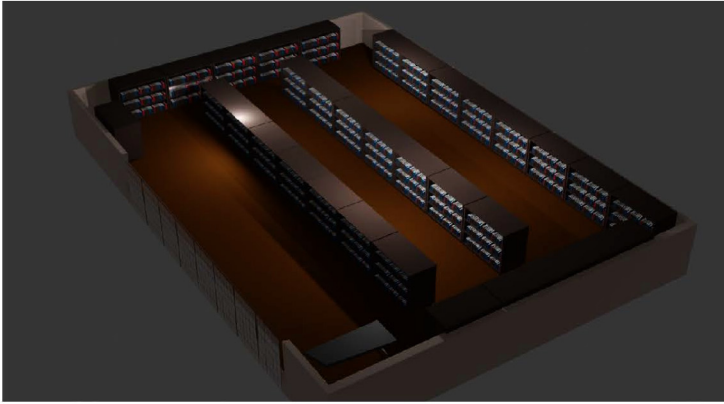


Figure 8: A picture of the library first floor where it contains all the bookshelves.

### Community Garden.

Moving to the community garden, there will be different types of items and equipment available for public use, such as gloves, fertilizer, seeds, planting pots. Moreover, there will be a small greenhouse for storing the equipment and planting small plants (Figure.9). At night, there will be long copper yellow bulbs to let people see clearly. As the community located on the rooftop, the building will have an underground water storage system connected to the roof by a long pipe with a tap at the end of it to provide water for watering plants. Eventually, both of the two facilities will need staff to help the public with their needs and operate the facility.

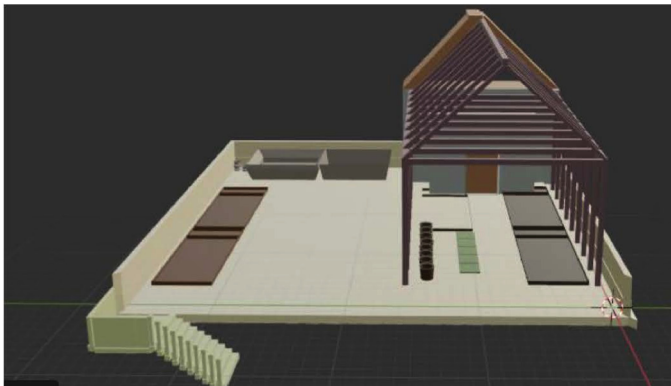


Figure 9: A picture of the community garden with the greenhouse and other equipment.

**Figure 9.** 3D model of proposed structure.

might be integrated into entry-level technical communication instruction. With a shared emphasis on interpretation within the technical space, these pedagogies also indicate how humanistic values might be combined with the teaching of professional skills, a frequent topic of concern for communication educators (Kedrowicz & Taylor, 2013).

More broadly, this case suggests what progressive communication instruction might look like in the unique environment of the EMI university. Within the EMI context, there is often no place for dedicated language instruction (Dearden, 2018). Communication and writing professionals might also not have free reign to design courses in line with their disciplinary values. Instead, professionals from a variety of communication-centered disciplines must cooperate to make the most of a limited number of communication credits. The case at issue demanded this sort of interdisciplinary synergy. Cooperation was furthered, first off, by specific procedural decisions. The articulation of a set of shared learning outcomes, for instance, allowed input from a variety of disciplinary perspectives. Likewise, the loose nature of the assignment outlines allowed instructors to tailor activities to their own disciplinary interests.

Cooperation was also furthered by a general commitment to hybridity, particularly as described by scholarship on translanguaging. With its emphasis on the fluidity of language, genre, and culture, translanguaging is a powerful tool for understanding, and helping students work within, the modern communication landscape. It helps educators reconceive linguistic difference as a plus rather than a minus (Hodges & Seawright, 2019). A translanguaging perspective also allows for a particularly expansive definition of communication competency. This definition makes room for textual-, verbal-, and technological-related skills and, correspondingly, the wide range of experts who teach those skills. By allowing everyone a seat at the table, the translanguaging paradigm, in this case, helped spur interdisciplinary cooperation. While not definitive, of course, this result suggests that translanguaging might be a productive addition to conversations around CXC/CID efforts.

## Final Thoughts

All told, early results suggest that Khalifa's adoption of the multimodal spiral has been a success. There is much work to be done, though. Both Elola and Oskoz (2017) and Jiang (2017) suggest that second-language learning and, by extension, EMI have not yet fully exploited the pedagogical potential of multimodality. The same can be said of communication instruction (Martin & Gaffney, 2016). Because research on the topic remains scant, program designers that do foreground multimodality inevitably end up making a great many assumptions. For example, at Khalifa, it was assumed that the student population was technologically savvy, with easy access to digital tools and other resources. Similarly, it was assumed that English faculty, despite little or no dedicated training in multimodal composition or assessment practices, could successfully cultivate multimodal competencies. The experiences discussed above

suggest that this is possible. But is such success replicable on a larger scale? The answer is unknown.

Further empirical investigation is needed into the effectiveness of the multimodal spiral, as well as multimodal communication instruction more broadly. This work will likely need to examine students' baseline skills and gains across time, teacher and student perception of multimodal activities, both parties' readiness to use various types of technology, and how multimodal skills might translate to or connect with students' future studies and careers. In EMI environments especially, such research will need to be interdisciplinary, drawing on the expertise of TESOL, writing, communication, and design experts. All told, the principles at the core of the multimodal spiral may hold great potential, but at the moment, that potential is largely untapped.

## **Appendix I: English 101 Skills Matrix\***

English 101 is the first course in Khalifa University's mandatory two-course communication sequence. This course introduces and begins to develop a set of literacy skills deemed necessary for success in STEM-related academic activities. Skills to be learned include:

1. Incorporating data and figures into explanations and arguments;
2. Writing abstracts and summaries;
3. Using IEEE citation format to cite sources and provide bibliographic references;
4. Reading carefully or "closely" to trace the evidence used to make an argument;
5. Using online tools (e.g., Google and Google Scholar) to conduct research;
6. Integrating information from multiple sources into explanations and arguments;
7. Taking notes and paraphrasing to avoid plagiarism;
8. Composing in a variety of modes.

The table below shows the progression of skill development across assignments. This model of learning is "spiral" in its design. Skills are developed and practiced in increasingly complex instantiations until proficiency is demonstrated.

| Course Topics             | Short Writing Assignments | Essay Supporting/ Refuting a Claim | Object-Focused Essay | Multimodal Presentation |
|---------------------------|---------------------------|------------------------------------|----------------------|-------------------------|
| 1. Data and Figures       | X                         | XX                                 | XXX                  | XXX                     |
| 2. Abstract and Summary   | X                         | XX                                 | XXX                  |                         |
| 3. Citation and Reference | X                         | XX                                 | XXX                  | XXX                     |
| 4. Close Reading          | X                         | XX                                 | XXX                  |                         |
| 5. Online Research        |                           | X                                  | XX                   |                         |

*(continued)*

**(continued)**

| Course Topics              | Short Writing Assignments | Essay Supporting/ Refuting a Claim | Object-Focused Essay | Multimodal Presentation |
|----------------------------|---------------------------|------------------------------------|----------------------|-------------------------|
| 6. Information Integration |                           | X                                  | XX                   | XXX                     |
| 7. Notes and Paraphrase    | X                         | XX                                 | XXX                  |                         |
| 8. Multimodal Composition  |                           | X                                  | X                    | XX                      |

X: Introduction and early practice

XX: Practice

XXX: Proficiency demonstrated and extended

\*Skills matrixes and assignment prompts adapted by the authors from materials originally created by Dr. Mark Dressman.

## Appendix 2: English 102 Skills Matrix

English 102 is the second course in Khalifa University's mandatory two-course communication sequence. Via two extensive assignments, this course further develops literacy skills introduced in English 101. It also develops skills related to project planning and budgeting: areas of special concern to science and engineering professionals. Skills to be practiced or learned include:

1. Core skills from English 101 (data-driven argumentation; abstract and summary; citation);
2. Writing to specifications;
3. Project planning and timeline development;
4. Using Excel to manage project finances/writing a budget narrative;
5. Reading and understanding research reports and academic articles;
6. Using advanced online tools (e.g., scientific databases) to conduct research;
7. Composing in multiple genres for a variety of audiences;
8. Avoiding plagiarism through paraphrasing and citation;
9. Composing in a variety of modes.

| Course Topics                | Technical Report | Multimodal Supplement | Project Proposal | Multimodal Supplement |
|------------------------------|------------------|-----------------------|------------------|-----------------------|
| 1. Core skills               | XXX              |                       | XXX              |                       |
| 2. Writing to Specifications | X                |                       | XX               |                       |
| 3. Project Planning          |                  |                       | X                |                       |
| 4. Budgeting/Spreadsheets    |                  |                       | X                |                       |
| 5. Close Reading             | XXX              |                       | XXX              |                       |
| 6. Online Research           | XXX              |                       | XXX              |                       |

*(continued)*

**(continued)**

| Course Topics                   | Technical Report | Multimodal Supplement | Project Proposal | Multimodal Supplement |
|---------------------------------|------------------|-----------------------|------------------|-----------------------|
| 7. Composing in Multiple Genres |                  | XX                    |                  | XXX                   |
| 8. Paraphrasing Citation        | XXX              |                       | XXX              |                       |
| 9. Multimodal Composition       | XXX              | XXX                   | XXX              | XXX                   |

X: Introduction and early practice

XX: Practice

XXX: Proficiency demonstrated and extended

### **Appendix 3: Assignments**

#### English 101

- Short writing tasks which introduce (1) data-driven argumentation, (2) abstracts and summary, and (3) citation and referencing;
- A writing-centered assignment of about 1,000 words in which students refute or support a STEM-related claim and that includes online research and the use of IEEE citation format;
- A writing-centered assignment of 1,000–1,500 words in which students focus on an object or product and write about it from multiple angles (e.g., scientific, social, economic, cultural, and historical) and that includes online research and the use of IEEE citation format;
- A multimodal presentation or video that remediates the product of either the “supporting a claim” or “object-focused” assignment in an engaging and informative way.

#### English 102

- A technical report of 1,000–1,500 words. The report should include a narrative of the research process; a statement of findings, supported by tables, graphs, and other multimodal elements; and a recommendation for action based on the report’s findings. The report should be supplemented by a multimodal presentation, video, or website.
- A response to a RFP of 1,500–2,000 words in which a use for grant money is proposed. The proposal should include an executive summary, a detailed description of the project, a budget in Excel or other spreadsheet program, a budget narrative, and a Gantt Chart. The proposal should be supplemented by a multimodal presentation, video or website.


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