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Article

Galleries of Language: Maker-Centered Learning and the Language and Culture Classroom

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Abstract

The use of digital exhibitions in two advanced language and culture courses within a liberal arts curriculum provides an innovative pedagogical approach to promoting language learning and critical analysis. This article proposes a pedagogy to incorporate Maker-Centered Learning (MCL), the framework that emerged from a Harvard Graduate School of Education research project, Agency by Design (AbD) in 2012, into language courses. Through the lens of the three indicators ("looking closely," "exploring complexity," and "finding opportunity") and related descriptors put forward by the AbD project, the analysis of the two language courses—one French and the other Spanish—as case studies reveals how, despite differences in course objectives and design, they achieved similar results by (1) facilitating learner autonomy, (2) developing learner communities, and (3) fostering learning on a continuum by going beyond the classroom. We demonstrate that creative projects made possible through digital tools can generate opportunities for engaging with language, literature, and culture in ways that transform students into collaborators and creators of knowledge. This approach consequently displaces the MCL framework from its more traditional association with Science, Technology, Engineering and Maths (STEM) fields, and bolsters the claims of scholars who view the arts and humanities as equally fertile ground for its application. The pedagogical methodology detailed here could be replicated in any language classroom.

Keywords:CALL, LC2, Maker-Centered Learning, digital exhibits, learner autonomy, global learning communities.

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1. Introduction

As students of languages, cultures, and literatures navigate foreign linguistic and historical terrains, they face unfamiliar vocabulary, syntax, and contexts; unravel the possibilities hidden in a single word or cultural artifact; play with the plurality of meaning; and generate new connections and new interpretations. These students are no strangers to encountering and deciphering codes or building worlds. Nevertheless, the Maker movement, which is more frequently associated with engineering or computer hacking (Thomas & Besser, 2017), is often dismissed as a natural pedagogical approach for Computer-Assisted Language Learning (CALL) in the language and culture classroom.

Early definitions of Maker education in works such as *Design, make, play: Growing the next generation of STEM innovators* (Honey & Kanter, 2013) confined its applications to STEM fields. The concept has since seen an upward trend (Halverson & Sheridan, 2014), and recent literature in higher education continues to showcase myriad examples from STEM (Bevan, Petrich, & Wilkinson, 2014; Dougherty, 2012, 2013a, 2013b) that perpetuate this association and exclude the humanities as a fertile ground for experimentation. May and Clapp (2017) bemoan the "limited scholarship that recognizes the connections between the Maker movement and arts learning." Such connections do in fact exist in the arts and humanities, however, and have tremendous potential in the language and literature classroom. This article demonstrates through a pedagogical reflection that linking Maker education with language teaching offers new possibilities to promote learner autonomy in this environment.

The courses described here, one in French and the other in Spanish, are advanced language and literature courses in a liberal arts curriculum and were taught by two of this article's co-authors. Through exchanges facilitated by the academic technology office, some of the material, experiences, and challenges from the French course informed the design of the Spanish course, since both instructors used digital exhibitions as innovative pedagogical approaches for promoting language learning, critical analysis, learner autonomy, and community building. While neither instructor overtly labeled their approach as Maker-Centered Learning (MCL), with guidance from this article's third co-author, who comes from an academic technology background, the three authors jointly recognized elements of MCL in their course design. The outcomes of our digital exhibition integration further demonstrate that the language classroom is just as receptive as the STEM classroom for the application of MCL.

The two case studies did not explicitly adopt the MCL framework, but rather substantiate the case made by Clapp and Jimenez (2016) regarding how creative approaches to using technology in teaching literature and culture in a

language other than English intrinsically incorporate or contain elements of the MCL framework. The objective of this study is to emphasize this inherent potential, and to encourage second or additional languages and culture (LC2) instructors to consciously consider MCL as a fruitful pedagogical model in their own course design.

We begin by presenting a brief overview of the MCL educational framework, and place this overview in the context of contemporary CALL, before turning to two case studies that illustrate the potential of MCL in the language and literature classroom. For each course, we describe the design process and analyze the student learning outcomes, focusing on pedagogical objectives and how they informed assignment design. We will also address the role of the digital environment in enabling the Maker culture approach, and share strategies for fellow faculty and instructional designers. Evidence from student work will demonstrate how the MCL framework may be employed as an effective approach to teaching LC2 courses.

2. Contemporary CALL and the Relevance of MCL

The field of CALL is constantly changing and growing, and has incorporated new tools and new pedagogical approaches over its historical trajectory. In describing aspects of contemporary CALL, Thomas, Reinders, and Warschauer (2012) state that CALL has been embracing a wide array of stakeholders from designers to classroom practitioners, researchers, and commercial materials developers. In the current digital age after the advent of Web 2.0, Warschauer and Grimes (2007) emphasize that these stakeholders include learners themselves, who are increasingly able to produce learning materials as well as consume them. This idea of the learner as a producer adds a new dimension to CALL and has potential for the LC2 classroom. The time has come for CALL to adopt the notion of the language learner as Maker of learning objects. Viewing the learner as a Maker is therefore an aspect that is common to both CALL and MCL. It is this connection between CALL and MCL that needs to be made visible and more deliberately explored.

2.1 The Learner as Maker through the Lens of Constructionism

In the early 20th century, Piaget's seminal work on his cognitive development theory (Piaget, 1971) described the stages in which humans gradually come to acquire, construct, and use knowledge. Piaget's work on an individual's cognitive development, combined with Vygotsky's emphasis on cognitive development enabled by sociocultural settings (Jaramillo, 1996), led to the

theory of constructivism, which posited that learners construct knowledge as an outcome of their experience.

Papert advanced Piaget's and Vygotsky's work by viewing learning as a "reconstruction rather than a transmission of knowledge" (Harel & Papert, 1991). Based on his work with children using LEGO pieces as manipulative materials, Papert (1986) showed that "learning is most effective" when the overall experience for the learner includes "constructing a meaningful product." According to Papert (Harel & Papert, 1991), constructionism meant "giving children good things to do so that they can learn by doing much better than they could before." Papert also emphasized the potential of new technologies to create rich environments in which children can learn as "part of something real." A logical extension of this constructionism framework would be to equate learning with "learning-by-making."

The natural synergies between the ideas behind constructivism and constructionism and most CALL work have been well illustrated in the literature. For example, Heift and Schulze (2007) highlight the role of Piaget's cognitivist principles (p. 126) when discussing the use of parsers and natural language processing (NLP) in CALL. The need for constructivist approaches when designing Intelligent CALL (CALL that uses Artificial Intelligence) tasks have been recommended by Oxford (1995). Recent work by Gu, Zhang, and Gu (2020) has investigated the impact of a constructivist learning environment when teaching English as a foreign language in China.

The notion of the Maker lab or Makerspace was born from the principles of Papert's constructionism, and has found widespread applications in education (Blikstein, 2018). In Maker labs, learning involves the combination of a mental process that germinates and explores ideas and the construction process where students create tangible objects (Carnagey, May, & Weaver, 2014). This act of construction is said to "aid a higher level of learning through additional engagement and retention" (p. 128).

2.2 Introduction to the Maker-Centered-Learning Framework

Agency by Design (AbD), a Harvard Graduate School of Education research project established in 2012, evolved from the aforementioned ideas of constructivism, constructionism, and agentic perspectives (Ross & Clapp, 2018) with the aim of investigating the promises, practices, and pedagogies of MCL. A key outcome of this research initiative was the creation of an MCL framework.

When the AbD project (Clapp, Ross, Ryan, & Tishman, 2016) developed the MCL framework, its main goal was "to help young people and adults feel empowered to build and shape their worlds." An essential factor in promoting Maker empowerment was creating a learning environment in which students

Table 1
The Indicators of MCL

MCL indicator	Observation tool—learning characteristics
Looking closely	"notice everything," "revisit a concept," "categorize ideas," "juxtapose and compare," and "change perspectives"
Exploring complexity	"explore inner workings," "explore points of view," "explore one's own perspectives," "look back and forward," and "tinker to explore"
Finding opportunity	"envision an idea," "reframe or draw plans," "look for resources," and "prototype and test"

develop a "sensitivity to design" that stems from "learning to notice and engage with the designed dimension of one's physical and conceptual environment" (p. 111).

The MCL educational framework (Clapp et al., 2016) identifies three interconnected indicators that help learners to develop a sensitivity to design: (1) looking closely, (2) exploring complexity, and (3) finding opportunity (see Table 1). Each of these indicators is in turn distinguished by certain descriptors that help to define the indicator, and provide a tool for the instructor and students to recognize concrete characteristics of learning. We will return to this language in the presentation and analysis of the case studies.

Born out of constructionist ideals (Vossoughi, & Bevan, 2014), MCL aimed to find ways in which technology tools enabled learners to construct and *use* knowledge, and therefore posed the question, "What kinds of innovation are liable to produce radical change in how children learn?" These constructionist approaches also prompt relevant questions for the LC2 case studies presented in this study. They invite us to reflect on how we design learning environments for students to exercise influence in non-traditional ways as they study another language and culture.

Although there is some scholarly literature on English language learning in reference to Maker culture (Godwin-Jones, 2015; Maio, 2016; Seymour, 2018), this article is among the first we are aware of to establish a connection between MCL and the LC2 classroom. Godwin-Jones (2015) mentions the Maker lab in the humanities department at the University of Victoria, and how information about this lab can be useful for L2 teachers. Seymour (2018) asks us to focus on "how much collaboration and communication occurred while attempting to solve a problem" when using Makerspaces with English language learners. The Godwin-Jones (2015) study also states that, "Maker culture provides a parallel to the call in communicative language instruction for students to use language for real world exchanges" and provides a link to an AbD blog

post on "Designing and making with English language learners" by Thi Bui (2013). Pat Maio's (2016) EdSource blog post describes how "'Makerspaces' for science instruction [are] also proving helpful for English learners." Another blog post by Lindsey Own (2016) focuses on "How to utilize a Makerspace for world language learning."

2.3 The Value of MCL to Contemporary CALL

In connecting Maker education to language learning and, specifically, CALL, the ideal scenario would be to use frameworks such as MCL and resources such as Makerspaces to give students agency to shape their learning process. Murphy (2018) cites several benefits of Makerspaces for English language learners; for example, it "minimizes the language barrier, but it can also be used as a conduit for strengthening cultural literacy" (p. 64). At the same time, Murphy also reiterates that the Maker movement has not only been embraced by STEM, but also in some "instances usurped by STEM" (p. 63). Murphy raises two questions that are directly relevant to applying MCL in the LC2 classroom: "What materials should I include to engage all of my students in the making process?" and "Am I taking advantage of and honoring the cultural and social aspects of Makerspace?" (p. 65.)

A key difference between an MCL-focused classroom and a language classroom that might rely on rote learning is that MCL offers the potential for developing what Dougherty calls the "Maker mindset" (2013b). In her book chapter with that title, Dougherty affirms that instead of merely directing the learner to perform a task or project, the Maker mindset "transforms learners into those who are self-directed and who can figure out what to do" (p. 9). Dougherty provides a list of strategies to achieve this transformation in education. For example, one important strategy that is relevant to the case studies we present here is "to create a community context for the exhibition and curating of student work in relationship with all Makers and making, such that new opportunities are created for more people to participate." Other strategies listed by Dougherty include, "to develop in all students the full capacity, creativity, and confidence," and "to become agents of change in their personal lives and in their community" (p. 11).

Similarly, when deployed effectively, CALL can foster learner autonomy (Blin, 2004; Reinders & Hubbard, 2013; Schwienhorst, 2012). Studying the role of learner autonomy is highly valued in the field of CALL (Fuchs, 2017; Mutlu & Eroz-Tuga, 2013), and is listed as one of the eight conditions for optimal language learning environments (Egbert & Hanson-Smith, 1999). A student developing as an autonomous learner is engaged in decision-making regarding learning goals and takes charge of their learning (Holec, 1981). We

therefore find one unifying idea between CALL and MCL: CALL aims to promote learner autonomy, while the premise of MCL is that the learner is the Maker and thus assumes responsibility for their learning.

It is through this shared emphasis on learner autonomy that MCL's application in LC2 education intersects with the fundamental tenets of CALL. The MCL framework effectively veers away from a teacher-centered approach and promotes a learning environment that empowers students to more actively and meaningfully engage with language and culture. By motivating students to create and interact with physical or digital artifacts, it offers an alternate methodology to hone language learning and build literary analysis skills through exploration and imagination.

The integration of digital exhibitions in the two case studies challenges STEM's monopoly on MCL, and instead reveals and reinforces the promise of the language classroom as holding just as much potential for the application of this framework. With the understanding that MCL is appropriate for language courses, we need to consider the tools to incorporate such an approach, and that a connection with CALL is therefore necessary. The key contribution of this article is thus to bring this connection between MCL and the LC2 classroom into the foreground, and to invite further investigation by CALL researchers and practitioners.

3. Two Case Studies

When examining educators' perspectives of a Maker-based university course, Cohen and associates (2017) state that there are two key aspects to Making, namely: (1) the construction of some kind of artifact, either digital or physical; and (2) sharing the process and/or the product of Making with a community of Makers. The application of new digital technologies and the potential for building and sustaining Maker communities helps to position the current Maker movement in a more advanced phase than previous DIY movements (Cohen, Huprich, Jones, & Smith, 2017, p. 2). The case studies that follow will describe the process involved in the creation of the digital exhibit in both courses, and will also anchor it to the global context of developing communities.

In the French course entitled "True or false: The search for reality in early modern France" (spring 2018), students worked individually and collaboratively to read, analyze, and respond to 16th- and 17th-century French literature. This culminated in a collective virtual exhibition questioning the notions of reality and truth within the frame of early modern France and contemporary society. In the Spanish course entitled "Art as protest in Spain and Latin America" (fall 2019), students examined how writers, artists, and activists from the Spanish-speaking world used art as a means of protest against authoritarian

regimes and oppression. Student work in individual and collaborative settings resulted in a pop-up museum and digital space as the final assessment. The courses used different strategies to create and curate digital exhibits, turning to resources such as Google Drive and Docs, WordPress, and Omeka to realize a common pedagogical goal. Moreover, they were united by a singular objective: to empower students to shape their own thinking about language and culture, to foster collaboration and community inside the classroom, and to promote connections beyond the material, participants, space, and time of the courses themselves. Technology helped the instructors and students realize the pedagogical vision by allowing the students to harness their critical thinking and creative ideas in new ways, gain access to a wider array of cultural artifacts, and make their work accessible and documentable beyond the constraints of the semester or the physical space of the classroom.

3.1 French Course—"True or False: The Search for Reality in Early Modern France"

The advanced-level literature course in the French department, "True or false: The search for reality in early modern France" (spring 2018) opted for a collaborative creative project that invited students to become curators who combined early modern and contemporary texts and media to reflect on the notions of truth and reality. What emerged from these endeavors was a collective virtual exhibition on the publishing platform Omeka. This particular iteration of the class consisted of 14 students (nine seniors, two juniors, and three sophomores), all of whom were declared or prospective French majors. Eleven students had previously taken at least one French literature course at the advanced level.

The design and learning objectives of the course were informed by the challenges that students often face when they encounter works from the 16th and 17th centuries, from the foreignness of Middle French and early modern typography to the unfamiliar historical events and cultural practices of the early modern period. First and foremost, students in the course discovered and analyzed early modern texts as products of a given historical context. Students then drew connections between the objects of study and contemporary preoccupations, thus demonstrating the pertinence of "old texts" to their critical understanding of the 21st century. Furthermore, they participated in the preservation of these early modern textual productions or artifacts by sharing their historically grounded analyses and contemporary comparisons with a broader audience. Finally, students created a collaborative classroom environment in which they came to see one another as valuable interlocutors, participating equally in furthering knowledge and understanding of the topic and period at hand.

During the first 11 weeks of the 13-week semester, each student prepared five written textual analyses and two audio recordings in response to the readings. Texts in the first unit of the course focused on discoveries, inventions, practices, and reflections—from first encounters with the American continent and its inhabitants by Europeans to dissimulation in politics and court culture—that triggered a crisis of knowledge and led individuals to question their reality. The primary sources in the second unit emphasized the place of fiction in different fields of knowledge and representation, including natural philosophy, journalism, history, and literature. In their textual analyses, students formulated an argument based on a short excerpt they had selected from a given reading. They then supported their observations by drawing on the language of the quotation as evidence. Although this exercise is conventional within the literature classroom, a number of MCL descriptors are inherently embedded within it. For example, students had the opportunity to "explore the inner workings" of our corpus and "explore their own point of view" through their selection of excerpts and their engagement with them. The audio recordings required that students explore and present connections between course material and objects outside of the syllabus, including time periods and cultures beyond those examined in the class. For each recording, students selected an object (an article, an artwork, a movie trailer, a tweet, etc.), which they first described and then compared to at least one of the readings in light of the course's themes. As with the textual analysis, this second assignment also deployed a number of MCL descriptors. In preparing and completing the recording, students had the chance to "juxtapose and compare" the works on the syllabus with objects and media of other cultures and periods. They also "explored complexity" as they turned to the texts, practices, and preoccupations of the past, before "looking forward" to their own 21st-century reality. Beyond their abilities to position themselves linguistically in a remote time period, they also had to reinterpret this language into modern French—spoken for the audio recordings and class discussions, and written for the textual analyses. Consequently, students furthered their French skills while also working on the distinct language registers from the earlier period and the modern day.

The written responses and audio recordings also served as an important preparatory step for the third part of the course, a series of in-class workshops that spanned the final two weeks of the course, and during which students outlined and assembled their collaborative virtual exhibition. These activities were largely facilitated by digital tools. The exhibition itself was built using Omeka, a free and open-source content management software tool for curating digital collections. In its final form, the virtual exhibition's main page is populated with prose that explains the questions and ideas driving its creation,

and summarizes the five galleries that viewers may explore (Figure 1a). In the galleries, accessible in any order through links that appear at the side of the page, a visitor will find a general introduction to the objects in that virtual space. The objects on display are a combination of images drawn from the 16th- and 17th-century works on the syllabus (Figure 1b) and audio-visual material ranging from maps to movie trailers. The former is coupled with object tags offering descriptions and analyses of the early modern text, and the latter is accompanied by the student's recorded commentary in the form of an audio file, now serving as an audio guide (Figure 1c).

Prior to the first workshop date, each student had to select one response paper and one audio recording to submit as a contribution to the exhibition's overall collection. Everyone also had to "find opportunities" by "looking for resources" such as images and other media related to their selections, in order to make the publication of that material more visually attractive on Omeka. Working both asynchronously and synchronously during various stages of the workshop, students oscillated between individual preparation outside of the classroom and group conversations. The first day of the workshop was led by an

(a)

Figure 1a–c. Digital exhibits from the French course.

EARLY MODERN FRENCH LIT @ AMHERST

Browse Items | Browse Collections | Browse Exhibits | About

DÉFINIR LE RÉEL

Les textes et les objets dans la galerie de « Définir le réel » vont remettre en question les limites du réel. Cette galerie fait la distinction entre l'apparence et l'essence, et comment nous interprétons les deux. On y peut trouver des oeuvres des médecins, des comédiens, des dramaturges, des poètes, et des artistes, tous expriment leurs définitions de la vérité de notre monde. Dans *Discours...de la licorne*, Ambroise Paré remet en question la définition du réel avec l'effet placebo des cornes de licornes où nous enseignons comment il y a le vrai dans le faux. À travers des fragments de *The Late Show with Stephen Colbert* et la pièce de théâtre *L'illusion comique* de Corneille, on crée une base de référence pour ce qui est réel et vrai. Ce travail de distinguer entre vrai et faux, c'est ce que font des scientifiques et des philosophes, comme Descartes, et des artistes modernes, comme Magritte, un travail qui consiste aussi bien à douter qu' à déterminer.

À LA RECHERCHE DU RÉEL PERDU

PAGE D'ACCUEIL

DÉFINIR LE RÉEL

RENOUVELER LE RÉEL

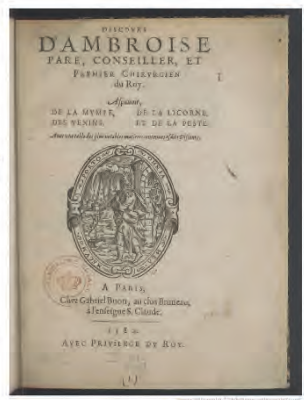
MULTIPLIER LE RÉEL

TÉMOIGNER LE/ DU RÉEL

BOULEVERSER LE RÉEL

Le Discours ... de la licorne

Ambroise Paré discute, dans *Discours ... de la licorne*, la vérité des licornes. Il ignore l'existence des licornes et au lieu décrit trois raisons pourquoi les cornes des licornes ne font rien. La première est qu'il a essayé des cornes comme un médicament et a découvert que les cornes n'ont aucun effet (31). La deuxième raison est qu'il avait parlé avec les meilleurs médecins et avait lit les meilleurs livres et la plupart des médecins ont dit que les cornes n'ont aucun de pouvoir (34). Enfin, Il écrit que les venins affectent le cœur, et le cœur ne s'est affecté que par l'air et le sang. Les cornes n'ont aucun lien à l'air ou au sang donc les cornes ne peuvent pas affecter les venins (36). Souvent, il écrit qu'on devrait savoir que les cornes ne font rien mais les gens préfèrent penser que les cornes sont des médicaments. Alors, l'opinion commune est ce qui donne aux cornes leur pouvoir bien que ce n'est pas trop difficile de savoir que les cornes ne font rien.
Les cornes me rappelle de l'effet placebo. L'effet placebo est que le médicament qui n'est pas vraiment médicament peut guérir les maladies. Notre cervelle nous fait croire que ce médicament nous fera sentir mieux. Donc, quelque fois, il nous aide à croire le faux au lieu de la vérité. Les cornes sont un exemple parce que, bien que les gens doivent savoir que les cornes ne font rien, les gens continuent à acheter les cornes.



AMBROISE PARÉ (1510-1590)
Discours (...) de la mumie, de la licorne, des venins, et de la peste
Frontispice
Texte imprimé. Paris: Gabriel Buon, 1582.
Gallica.

AMBROISE PARÉ (1510-1590)
Discours (...) de la mumie, de la licorne, des venins, et de la peste
p. 20r
Texte imprimé. Paris: Gabriel Buon, 1582.
Gallica.

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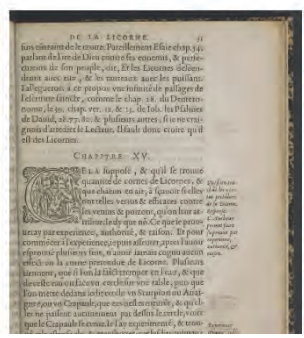
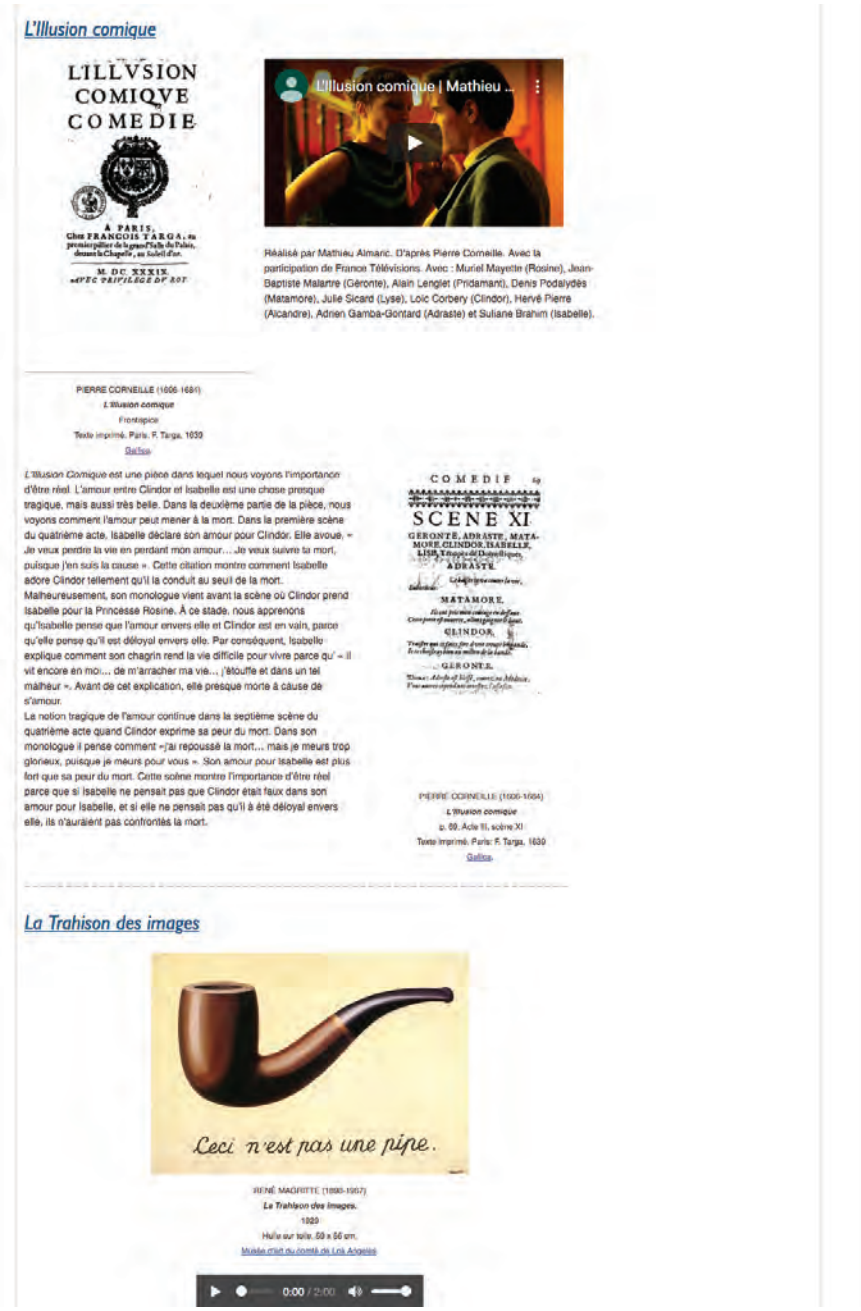


(b)

Figure 1a–c. (*Continued.*)



(c)

Figure 1a–c. (*Continued.*)

DISTRIBUTION PROVISOIRE DES OBJETS
(d'après vos recommandations)

- Objet mentionné dans au moins deux catégories
- Objet pas mentionné lors de la discussion

NOM	ENREGISTREMENT	GALERIE	RESPONSE PAPER	GALERIE
	La comédie/ Gad Elmaleh et l'humour en EN/FR	II	Montaigne, « Des cannibales »	??
	Neutralité du réseau	??	Paré, *Discours de la licorne*	I ? II ?
	On the run	II	Ronsard, *Discours*	IV
	Colbert	II ? IV ?	Marguerite de Navarre, *Heptaméron*	IV
	Petit-à-petit	II ? III ?	D'Aubigné, *Les Tragiques*	IV
	She's the Man	II III	Fontenelle, *Entretiens*	III
	Oculus Rift	I ? III ?	Fontenelle, *Entretiens*	??
	Carter, *Starving Child*	??	Montaigne, « Des cannibales »	IV
	Pocahontas	II	Mme de Lafayette, *La Comtesse de Tende*	I
	Tableau Vernet	I	Corneille, *L'Illusion comique*	I
	Tableau Delacroix	IV	Fontenelle, *Entretiens*	I ? III ?
	Magritte, *Ceci n'est pas une pipe*	I	Desmarests, « Le château de Richelieu »	III
	Fallows/ oubliance	I ? IV ?	D'Aubigné	IV
	La carte	I ? III ? IV ?	Bussières, « Arc-en-ciel »	??

Figure 2. Grouping objects into galleries.

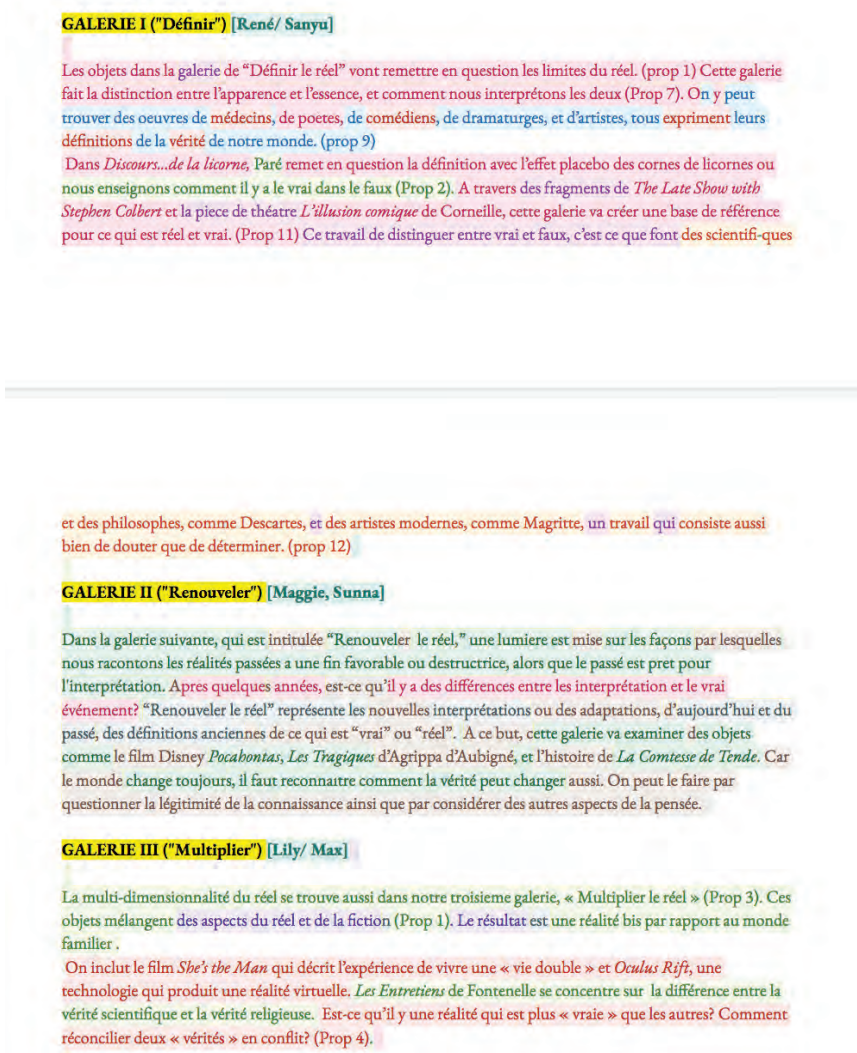
academic technology specialist. Students brought their laptops to class or were provided with one for the duration of our meeting. They received a tutorial on Omeka and the process of adding their contributions (the textual analyses and accompanying images taken from the frontispiece or relevant page of early editions of the work; the audio recording and corresponding media), along with relevant metadata as "items" in a collective repository that would be visible to all users (Figure 2). They were also guided through the process of generating new subpages or galleries within the exhibition, and of transposing their "objects" or contributions from the repository to a given page. Once the objects in the collection had been compiled in Omeka, students were tasked with browsing, reading, and listening to the content shared by their peers prior to our next meeting. In other words, students had to "look closely and notice everything." They were also required to "revisit the concepts" studied in class, as well as the significance of their own contributions as they "juxtaposed

and compared" the submissions made by their peers. Each individual had to "categorize" some of these "objects" in the collection and propose possible galleries based on common themes in anticipation of our in-class conversation.

Two workshop sessions were dedicated to the discussion of the proposals, and to reaching a consensus regarding the subject of the four or five galleries and the distribution of objects among them. This activity combined characteristics of the two MCL indicators, "exploring complexity" and "finding opportunity": it required the "exploration of points of view" as students envisioned individual and collective ideas, tinkered with them by shifting a given object between various galleries, and reframed galleries based on other possible combinations of objects. Once the titles and contents of the galleries had been finalized, students asynchronously drafted individual statements of around 500 words to describe the purpose and contents of the virtual exhibition for visitors, articulating the thesis of the overall project and summarizing the contents of each gallery. During the final workshop, students received a paper copy of the exhibition description prepared by a peer, and they underlined or highlighted at least two sentences that they found particularly insightful or interesting. Shifting from the analog to the digital environment, students used their laptops to access a shared Google Document, where they added the prose they had selected under the appropriate heading ("General introduction," "Gallery one," etc.). Working in groups, they subsequently crafted the prose of a given heading based on the content of the Google Document (Figure 3).

Driven by the pedagogical principles of the language and literature classroom—improving written and oral expression and reading and listening comprehension while cultivating or furthering critical analysis skills—the course applied established strategies such as scaffolded assignments alongside creative and collaborative endeavors to cultivate learner autonomy as well as an interdependent learning community. The design of the workshop and final assignment required students to draw on contributions by their peers, and empowered them as agents in individual and collective decision-making. In the scaffolded assignments, students had the freedom to select the excerpts they analyzed, and they chose the objects of comparison in their audio recording, reflecting how they related to the corpus. They judged the quality and relevance of their own work as they made decisions about which assignments they would share for the final exhibition. They shaped their own engagement with primary sources through comparisons with other objects of their choosing. Moreover, the degree to which they opted to revise and integrate feedback on the content and language of the recycled assignments allowed for more active investment and responsibility in improving their language skills.

By situating individual work within the frame of a collaborative endeavor, students also came to see their own textual and audio productions as malleable



GALERIE I ("Définir") [René/ Sanyu]

Les objets dans la galerie de "Définir le réel" vont remettre en question les limites du réel. (prop 1) Cette galerie fait la distinction entre l'apparence et l'essence, et comment nous interprétons les deux (Prop 7). On y peut trouver des oeuvres de médecins, de poetes, de comédiens, de dramaturges, et d'artistes, tous expriment leurs définitions de la vérité de notre monde. (prop 9)

Dans *Discours...de la licorne*, Paré remet en question la définition avec l'effet placebo des cornes de licornes ou nous enseignons comment il y a le vrai dans le faux (Prop 2). A travers des fragments de *The Late Show with Stephen Colbert* et la piece de théatre *L'illusion comique* de Corneille, cette galerie va créer une base de référence pour ce qui est réel et vrai. (Prop 11) Ce travail de distinguer entre vrai et faux, c'est ce que font des scientifi-ques et des philosophes, comme Descartes, et des artistes modernes, comme Magritte, un travail qui consiste aussi bien de douter que de déterminer. (prop 12)

GALERIE II ("Renouveler") [Maggie, Sunna]

Dans la galerie suivante, qui est intitulée "Renouveler le réel," une lumiere est mise sur les façons par lesquelles nous racontons les réalités passées a une fin favorable ou destructrice, alors que le passé est pret pour l'interprétation. Apres quelques années, est-ce qu'il y a des différences entre les interprétation et le vrai événement? "Renouveler le réel" représente les nouvelles interprétations ou des adaptations, d'aujourd'hui et du passé, des définitions anciennes de ce qui est "vrai" ou "réel". A ce but, cette galerie va examiner des objets comme le film Disney *Pocahontas*, *Les Tragiques* d'Agrippa d'Aubigné, et l'histoire de *La Comtesse de Tende*. Car le monde change toujours, il faut reconnaitre comment la vérité peut changer aussi. On peut le faire par questionner la légitimité de la connaissance ainsi que par considérer des autres aspects de la pensée.

GALERIE III ("Multiplier") [Lily/ Max]

La multi-dimensionnalité du réel se trouve aussi dans notre troisieme galerie, « Multiplier le réel » (Prop 3). Ces objets mélangent des aspects du réel et de la fiction (Prop 1). Le résultat est une réalité bis par rapport au monde familier .

On inclut le film *She's the Man* qui décrit l'expérience de vivre une « vie double » et *Oculus Rift*, une technologie qui produit une réalité virtuelle. *Les Entretiens* de Fontenelle se concentre sur la différence entre la vérité scientifique et la vérité religieuse. Est-ce qu'il y une réalité qui est plus « vraie » que les autres? Comment réconcilier deux « vérités » en conflit? (Prop 4).

Figure 3. Collaborative writing process on a Google Document.

objects in a protean process, echoing many of the elements that characterize the MCL framework. On an individual level, they repurposed their own work from an isolated response to a given reading into an object within a network of other objects that would serve as a piece of a larger whole. While the broad parameters of this "whole" were stipulated by the themes and guiding questions of the course, its specific shape was not predetermined. The final exhibition that now exists is simply one possible iteration of the countless combinations

and permutations of individual and collective choices, from the very objects that each student opted to share to decisions about how to group those objects as galleries. A different selection or even arrangement of objects would have resulted in galleries, and ultimately an exhibition, that would have privileged other ideas and objectives.

Just as the combination of individual objects would form the identity of a given gallery, the presence of an object within that gallery would emphasize and perhaps even reveal a different aspect of that object. For example, when students had to finalize the placement of objects within the five galleries upon which they had agreed, they demonstrated characteristics from all three MCL indicators, "look closely," "explore complexity," and "find opportunity." Students had to "categorize" the objects, which in turn required that they "revisit" them and possibly "change perspectives" as they considered the textual analyses and audio recordings in the light of set themes for each gallery. Figure 2 summarizes the distribution of objects among the galleries. While certain objects (not highlighted) found a clear home, others did not receive an attribution (highlighted in green). The contributions in the third category, highlighted in yellow, were seen as belonging to multiple galleries, inviting everyone to "explore points of view." One student submitted a recording that described McArthur's Universal Corrective Map of the World (1979). This map began as a project by an Australian student who altered the orientation of the world map, with the South at the top of the page and Australia in the center (Figure 4). The recording addressed the question of representation and

Figure 4. McArthur's Universal Corrective Map of the World (1979).

perception, and it also compared the 1979 map to earlier European and Islamic cartographic depictions that intentionally privileged other orientations. When students individually "envisioned an idea" regarding the contents of a given gallery, this particular item was a contender for "defining the real," "multiplying the real," and "disrupting/shaking up the real" (where it ultimately ended up). The selection of objects and the discussions about how to group them was akin to "tinkering," and it enabled students to engage in experimentation as they "reframed their plans," repurposing and juxtaposing different elements to reflect on the reciprocal relationship between parts and wholes. This was also a particularly valuable lesson in the frame of a literature course that trains students to interpret critically: that the map acquired different meanings or that a new facet emerged within different contexts modeled the existence of a variety of equally valid perspectives.

Based on comments received in course evaluations, the collaborative final project was seen as innovative among students, who remarked that they had "never done such a collaborative project with the whole class for a final project before," and that the "exhibit project is an innovative way to tie the class together." Some observed that it was a positive learning experience that allowed for a review and synthesis of the course material and conversations. The integration of a virtual exhibition and an extended in-class workshop as part of the "True or false" course also presented a number of practical and technical challenges. While considerable thought was given to the design of the workshop and its various steps, certain phases worked better on paper than in practice. For instance, the assignment requiring students to share their individual proposals for possible galleries was a success insofar as it fostered engagement with the work of peers and ensured participation from every student through informal presentation or "pitches." The process of narrowing down the selection and finding consensus on four or five galleries based on the proposed ideas, however, proved to be more chaotic and would require a more structured solution in order to be more efficient and effective.

Omeka was deemed to be a suitable platform for the project because it would allow students to add media to the same repository and therefore have access to the same items. Using a tool that is common to digital humanities projects also had the added benefit of providing practical skills for future endeavors, for both instructors and students. The possibility of viewing previous exhibitions or projects also added to Omeka's appeal as a pedagogical tool, since it could be used as a model for future iterations of the course, and, as is the case here, to serve as a resource and example (one might even say "prototype and test") for a similar assignment in another course. In addition, a growing collection of exhibitions affiliated with a single course over several years would create an archive that could allow for a study of the course's transformation over time,

offering insight into the questions, preoccupations, and current events of the years in which the course was offered.

Some of these advantageous features, however, became obstacles once put into practice. Although objects in the repository could be categorized by "collection," which could correspond to a given iteration of the course, there is no way to separate contributions from students in different versions of the course, and the repository appears very cluttered. Furthermore, while the platform accommodates multiple users, two users cannot manipulate the same page at the same time without losing work. These limitations extend to asynchronous work on a collaborative Omeka project as well, if two students happen to be working independently on a given page at the same time. Even in a synchronous format, it requires significant communication among users to avoid conflict. Compared with traditional papers and assignments, a course that involves creative and collaborative assignments on small and large scales, and which seeks to use technology in a meaningful way, is a time-consuming and highly experimental endeavor, especially in its first or early iterations. It is, however, a worthy investment if it helps shape an intellectual community of equal contributors who actively transform course material through insightful analyses and surprising juxtapositions that showcase the value and necessity of their sustained study.

3.2 Spanish Course—"Art as Protest in Spain and Latin America"

"Art as protest in Spain and Latin America" examined how writers, artists, filmmakers, and activists have resisted the censorship, cultural repression, and moral authority of 20th-century dictatorships in Spanish-speaking countries. The primary objective of the course was to deepen students' cultural competency about the countries and communities under consideration by examining contemporary history, politics, literature, film, and plastic arts as reflections of that country's zeitgeist. It also brought the greater Spanish-speaking world into conversation, in order to reflect on cross-cultural influences, commonalities, and divergences in an international context. As an extension of these aims, students were encouraged to think critically about how the course material might apply to their own communities, thus allowing them to develop a personal stake in the course, and to make connections across countries and time periods.

The first iteration of the course integrated advanced language practice with the study of Spain, Argentina, Chile, and Guatemala during contemporary periods of repressive political regimes. Eight seniors, who varied from intermediate mid to advanced high proficiency in Spanish, completed the class. Course

discussions and primary sources (literature, film, historical documentation, websites, etc.) were in Spanish. Assignments were completed independently, with class time devoted to visually enhanced lectures, full class discussion, pair and small group peer editing, hands-on design activities, and the presentation and analysis of cultural artifacts such as artwork, museum expositions, blogs, etc. For the final project, students built a virtual museum display, a task that combined current practices in language instruction—such as integrated real-world texts, collaborative assignments, and multiple revisions—with pedagogical practices borrowed from the worlds of museum curation, art history, and pop-up culture.

Approximately every three weeks throughout the semester, students added a work of art to their virtual display. They were told that their artwork could consist of objects from the traditional plastic arts such as painting, sculpture, and drawing, as well as literature, film, folk art, photography, music, social media, performance, and street art. In conjunction with a close examination of the object, each student "explored the complexity" of their object by composing an accompanying wall label with basic information about the piece, an explanation of the work's visual content, and an analysis of the object's historical and artistic context. Students were challenged to communicate this information concisely in writing (in under 200 words), and subsequently to present their object to their classmates in a five-minute oral presentation. These presentations asked students to "find opportunities" to reframe their objects in terms of the developing theme of their museum display, as well as to respond to questions posed by their classmates that "tested their assumptions" about the artwork. As students built their museum display object by object via the scaffolded structure of the assignment, they improved not only their Spanish fluency but also their language confidence when confronted with subject matter not scripted for LC2 learners. For these reasons, we consider the course path-breaking, since it integrated both traditional and non-traditional approaches to language study that echo elements of the MCL framework.

Each student developed their digital exhibit by identifying and researching five works of art that engaged with the overarching topic of the class for the final project. In the design of their digital exhibitions, students were free to choose from Spanish-speaking countries, genres, and topics that interested them. Before beginning the project, students participated in two workshops: one at the college library on finding and researching digital works of art; another at Amherst's Mead Art Museum on "looking closely" at artwork, composing wall labels, and curating an exhibit. After learning about the component parts of an exhibit in the latter, students adopted a hands-on approach to building their own virtual museum display from the ground up.

Students were tasked with "noticing everything," in order to create a wall label for each artifact included in their final exhibit. This label consisted of identifying information (the "tombstone" in museum parlance) and a short paragraph providing historical information, context, and one to two sentences of analysis (the "chat"). Both the artifact and the wall label existed only digitally, posted with an image or embedded video clip on the course's WordPress blog and tagged with keywords consisting of the object's country of origin, genre, and the political regime or social issue with which it engaged. Students completed three wall labels over the course of the semester and presented them one by one in class. They spoke about the information they chose to include on the wall label, how they found the object, what struck them as interesting about the object, and how it might integrate thematically into the full digital exhibit they were compiling. After each presentation, as the image of the object and its label were projected, students were encouraged to ask clarifying questions of their peers. These exercises engaged students to "explore new perspectives" and find ways to reframe their approach to the overarching virtual museum exhibit.

For in-class final presentations, students prepared and labeled two additional objects—bringing the exhibit to a total of five objects each—and an introductory blog post. Here, the students delved into how they came to group their artifacts together, through a geographic concentration, a particular genre, or a theme. The project culminated in a pop-up museum mounted physically in the classroom and virtually on the WordPress blog that collected all of the students' objects and analyses to produce an artistic tour through salient issues affecting the Spanish-speaking world today. The pop-up museum borrowed elements from bricks-and-mortar exhibition halls as well as interactive museum websites. A printed-out color image of each artifact with its accompanying wall label was posted on the walls of the classroom alongside each exhibit's introduction. In the center of the classroom, two stations with tablets and headphones were available with video and audio clips. A Google Drive slideshow—akin to the interactive display a museum visitor might find as they first walk into an exhibit space—displayed all of the objects on a loop, while students moved around the room examining the artwork, reading wall labels, and watching audio-visual clips. As they toured the pop-up exhibits their peers had created, students jotted down real-time reactions, questions, and suggestions to improve grammar and syntax on paper Post-it Notes and stuck them directly on the relevant printed-out wall label or introductory text. The activity thus seamlessly bridged analog and digital MCL, so that students could engage in tactile and nonphysical tinkering at the same time. As students read and considered the cultural artifacts and museum labels, they "explored the complexity" of the different points of view represented by their peers' work, entering into the conversation by making their own suggestions and

observations. They "looked backward and forward," considering the objects as historical artifacts as well as entities with present-day relevance. After the annotation activity, the students discussed their conclusions in a large group setting, probing their own perspectives and refining their thinking based on the discussion. Toward the end of these culminating classes, each student curator spoke briefly about the inspiration for the exhibit and answered questions posed on the Post-it Notes. For the final draft, students revised their wall labels and introductions, returning to the annotations gathered during the peer review to polish their digital exhibit.

This creative semester-long project allowed each student to encounter their own point of entry into forms of artistic expression in Spanish-speaking countries that had not necessarily been addressed by the professor in class. Each student took ownership of their work, building a final exhibit in stages that engaged with not only the course material but also their classmates' exhibits. They proposed prototypes in the form of wall labels for each object, which they then tested against the thematic concept that would eventually tie their objects together in a cohesive museum exhibit. The digital nature of the exhibit allowed the course to move beyond the confines of the classroom and solved the practical aspect of mounting a physical exhibition; without access to these artifacts as tangible objects, the students turned to the enormous array of artistic expression in the Spanish-speaking world available online[1]. Moreover, students were able to react—via their choice of artistic expression and themes—to developing political and cultural movements around the world. They reframed their ideas via analog displays and polished digital exhibitions with the aid of the academic technology specialist. The resulting online museum demonstrated a communal endeavor to manifest collective displays of resistance in Spanish-speaking countries by introducing language and cultural knowledge skills into conversation with MCL and technology.

Students at times found it challenging to find primary source material and were frustrated that not all objects are readily available online, in Google photo arrays or as digitized videos. Nevertheless, this frustration was a positive learning experience, encouraging students to "find opportunities" via the library and other resources in the target language. Those who encountered a work of art from a museum catalog, a song on vinyl, or a video clip not already on YouTube experienced a sense of satisfaction gained from digging into the research process. The students were not at ease writing and discussing forms of art at the beginning of the semester, finding it challenging to work in the terrain of visual analysis. However, their confidence as pop-up museum curators increased as they embraced the "looking closely" ethos of the MCL framework.

Maker culture was channeled beginning in the second class, when students shared an object someone else had designed and built that represented protest

Figure 5. Student learning process combining analog and digital forms.

art in their eyes (handmade stitchery from Peru; a placard used at a protest; a political T-shirt), and began a semester-long conversation about how Makers represent belief systems through visual and/or tactile creations. Furthermore, students were responsible at every stage for assembling their exhibit, revising it, and making connections with other students, both in digital form via the course blog and analog form via presentations and peer editing sessions, which promoted shared responsibility and, by extension, a sense of community in the class. The final pop-up exhibit was another intentional blend of digital and analog spaces between tablet stations and Post-it Notes (Figure 5).

Language skills were expressed in every activity, from composing wall labels to preparing oral presentations. Students encountered different registers and iterations of Spanish in their research, from more formal literature to contemporary pop art in different countries where lexicon, morphosyntax, and pronunciation vary. In this way, students were challenged to hone language skills suited to the specific project. For example, one student designed an exhibit around the social media campaign #NiUnaMenos in which she developed a vocabulary and language strategies to write and talk about social media and gender-based violence in Argentina[2]. One of the most challenging linguistic aspects of the course from the students' perspective was the need to revise their

prose into concise 200-word wall labels and 500-word blog entries. The process of composing these short essays required students to polish their syntax, use precise language, assess the relative importance of disparate ideas to the organic whole of the project, and think critically about how to communicate their ideas effectively in the target language. Peer editing and assessment sessions were an opportunity for the students to examine their written work with feedback from their peers and the professor, so that they were correcting grammatical and syntactical errors aided by the diverse language skills of the classroom community as they moved through assembling their projects.

The scaffolded assignments allowed the students to incrementally move toward an original research question or thesis that their exhibit would ultimately endeavor to answer (e.g., how has street art in Colombia countered repressive political tactics?). A cognitive mapping activity aided students in visualizing how their objects interrelated around a particular theme, geographic region, or genre (Figure 6). Students juxtaposed elements of their digital exhibits to test out possible links. They then described their cognitive maps to their peers, highlighting their decisions to compare and contrast elements, thus demonstrating a deep understanding of the nexus between politics and culture through effective target language use. One student presented a photograph of an artist with tape covering her mouth on which "Aa'o ink'a' nokoxik" ("We are not leaving" in Maya Q'eqchi') was written (Figure 7). This initial

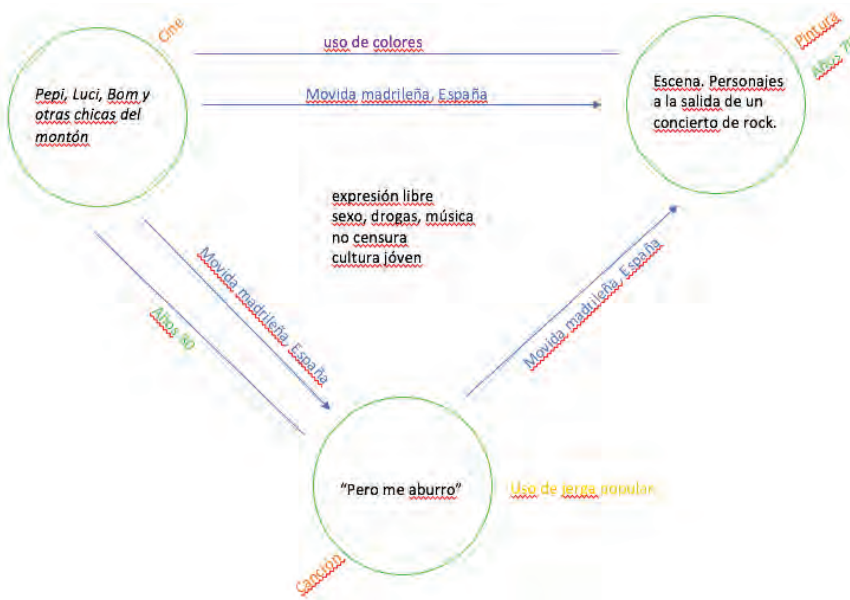


Figure 6. Cognitive mapping.

Sandra Monterroso

Guatemala (1974-)

Self-portrait – Guatemala

Fotografía, 2014

Italo-Latin American Institute, Roma

Figure 7. Artist with tape covering her mouth.

object struck the student as provocative, artistic, and relevant to the themes of social class, language, and race. She ultimately built an exhibit titled "La voz indígena, la voz de resistencia" (The indigenous voice, the voice of resistance) that cut thematically across the course's content. The student was proud of her work on a topic that had great personal resonance.

While much of the thinking and design happened individually, the digital exhibits were ultimately collaborative projects. Peer reviews grew in scope from week to week as the students in the class became more familiar with the projects their peers were developing. They critiqued each other's work, culminating in the pop-up exhibit itself, which was essentially a hands-on peer editing session. Students were encouraged to share their final work beyond the temporary pop-up museum as a permanent representation on the WordPress blog, which could be shared with their families and friends. The blog was also featured at the end of the semester on the Spanish department's website, and permitted students in a subsequent iteration of this course to envision the end result of the digital display as they embarked on their projects. Ultimately, these digital exhibitions allowed the students to reflect on how art can be an effective form of protest and resistance throughout the Spanish-speaking world.

4. Discussion

As the two case studies demonstrate, these courses differed via target language, specific course objectives, and breadth of course material. Nevertheless, their commonalities in terms of pedagogical intent can be categorized under three interconnected areas: the promotion of learner autonomy; the goal of creating a space for collaboration and community in the classroom; and the possibilities of moving beyond the classroom in a meaningful way. Crucially, these underlying goals for both courses speak to the pillars of MCL, further illustrating the appropriateness of the model for language teaching and learning.

4.1 The Emergence of Learner Autonomy

The three fundamental principles of learner autonomy in a language learning setting, namely, learner involvement, learner reflection, and use of the target language (Little, 2007), were present in both the French and the Spanish courses. The two classes took as their guiding objective the students' ability to forge their own path through the course material. Whether dealing with early modern French printed books or contemporary Spanish and Latin American art and literature, students from both courses had the freedom to identify points of individual interest and develop them through their respective digital projects. In both instances, students were charged with developing a meaningful whole out of the sum of their digital parts by choosing, grouping, and arranging objects in their galleries or exhibitions around a thematic thread of their own devising. Furthermore, this sense of learner autonomy was apparent through in-class or recorded presentations, in which students justified their creative thinking to their peers and used the collected feedback to revise and refine their projects. In the process of tinkering with their digital exhibits, students were at liberty to find new points of entry into their work, making connections between the past and the present, and developing questions that would help guide them in their research and writing process. Each student on these two courses was also absorbed with their own language learning, targeted to their abilities and needs. Instead of a common language curriculum, students refined language skills tailored to their projects and interests. The result for both classes was a highly dynamic classroom environment reinforced by the creative exercise of the digital exhibit, in which students were individually responsible for their critical language development.

Examples from both the French course and the Spanish course showcase the connection between learner autonomy and descriptors from the "looking closely" indicator of the MCL framework, such as "notice everything," "categories," "juxtaposition," and "compare."

In the French course, the exercise of grouping the submissions by their fellow classmates into galleries required students to envision an idea on an individual level in anticipation of discussions and collective decisions about what those galleries would be. While the instructor set the general parameters of the assignment ("selecting a certain number and type of objects," "categorizing objects," "brainstorming galleries"), the galleries were outcomes of *their* individual and collective considerations rather than predetermined entities, and students adapted their language around a given object as they justified its categorization under various headings or considered other perspectives. As one student observed in the course evaluation, "it was interesting that our exhibitions focused on certain ideas more than others, though, such as Fontenelle, while other units such as the nouvelles/gazettes were almost entirely neglected. I still enjoyed the way we framed everything around the various aspects of 'le réel' [the real]." Indeed, if certain texts or units from the syllabus were not represented and certain works were privileged to the detriment of others within the exhibition, it is because the interests and decisions of individual students drove the selection of the objects on display and in turn informed the collaborative outcome.

In the Spanish course, the cognitive mapping exercise asked students to "look closely" at their objects and brainstorm connections among the discrete elements of their in-progress digital exhibits. Figure 6 shows how students used colored pencils and paper to generate ideas, create categories, and draw connections. Students revisited their maps as they further developed their digital exhibits, in order to determine which categories and connections should be retained for the finished project. In many cases, those terms became the keywords that demonstrated the relationships between different student projects on the course WordPress site: "feminicidio" (femicide), "iconografía" (iconography), "testimonio" (testimony), and "autoretrato" (self-portrait) are just a few of the keywords that interconnected student exhibits.

As the examples above demonstrate, the acts of noticing everything, categorizing, juxtaposing, and comparing contribute to cultivating learner autonomy in the design of the exhibition and in the use of language. These common elements of the LC2 classroom are also descriptors that the MCL framework recognizes under the umbrella of "looking closely," one of its key indicators. This coincidence between existing practices and the MCL framework is but one reason why the relationship between MCL and the language classroom, and by extension, between MCL and CALL, merits further examination.

4.2 Developing Learning Communities

Beyond learner autonomy, a spirit of collaboration and community was evident in both the French and the Spanish courses. As students developed language strategies suited to their own projects, they were able to share those gains via the courses' digital content managers (WordPress or Omeka). Grounding the digital projects in the peer review process also meant that students were engaged and involved with their peers' projects from the very start. The final digital exhibit was a collaborative endeavor that bound each student's work with that of the others to form a meaningful whole. Ultimately, this sense of collaboration in the classroom translated into a common responsibility for the final digital products, a sense of engagement with peers' work, and pride in the creation of something for which the student community was wholly responsible. Even the sense of frustration that is natural in the tinkering process, understood as unmethodical attempts to improve or adjust, can be a source of pride. As students attempted to resolve issues in the classroom setting, their shared frustrations in the "messy" or unordered nature of the project created a feeling of community and of obstacles overcome together.

Again, we can see a strong connection between community-building strategies and the following descriptors from the "exploring complexity" indicator of the MCL framework: "explore points of view," "probe your own perspective," "look back and forward," and "tinker to explore." For example, in the French course, the Google Document exercise was designed to articulate a collective vision of the overall exhibition and its galleries, combining analog (highlighting and annotating a printed document written by a peer) and digital practice (transposing highlighted prose to a Google Doc for further manipulation). In this activity, students repurposed their peers' work, and tinkered with fragments to form a coherent whole. As Figure 3 illustrates, the design of this exercise also ensured the inclusion of every voice, as the collective prose wove together parts from each student's proposal.

In the Spanish course, students annotated their peers' work via the Post-it Note peer review process during the final in-class pop-up museum (Figure 5). The iterative process of creation was evident, as the students then revised their object descriptions on the WordPress platform based on the Post-it commentary, their appreciation and assessment of their classmates' object displays, and the resulting discussion before handing in their final digital exhibits. One student wrote in a course evaluation that they "really liked the way the blog aspect of the class [was] relevant and [was] pushing my boundaries. I am so used to writing papers, and creating a blog has been a refreshing challenge."

Through annotating, reviewing, excerpting, and reassembling, the collective manipulation of texts in both classrooms encouraged students to engage with multiple viewpoints and develop consensus building, vital aspects for

building a learning community (Albion, 2014). The exercises performed by the students are also a form of tinkering, which is seen as crucial to the development of a Maker mindset (Bevan, Petrich, & Wilkinson, 2014). The creation of a learner community through tinkering in these two advanced-level LC2 literature classrooms once again brings to light qualities that call for a closer examination of MCL's potential in this environment.

4.3 Learning on a Continuum, Beyond the Classroom

Both the French and the Spanish classes worked to move beyond the classroom, seeking opportunities to tie student learning with future endeavors, "outside" resources, or a sense of the larger implications of their work. By using authentic materials, both courses invested the students' learning in realia and real-world issues: how do textual works shape our understanding of truth and reality, be it in the early modern period or today? How is art used to channel political discontent in the modern Spanish-speaking world? Both questions reveal a larger purpose to the classroom assignments and assessments, also connecting the students to ongoing discussions happening in the world around them. Additional consequences "beyond the classroom" were slightly different for each course: the French class constructed a corpus of materials that students in subsequent iterations of the course could use and expand upon, while the Spanish class engaged with campus resources such as the art museum and library. For both courses, the academic technology services department was crucial, as it identified the appropriate software to structure the digital projects, provided ongoing guidance, and built a space for the end result to exist outside the walls of the classroom. Although different institutions may not always have access to the same resources, there are key advantages to seeking input and collaboration from beyond the classroom walls; namely, that the students are able to clearly see that their learning has implications in the real world, in other fields and settings.

The virtual exhibition projects extended student learning beyond the classroom and again showcased how these efforts parallel the "finding opportunity" indicator of the MCL framework, such as "envision," "reframe," "make plans," and "prototype and test." As students looked backward and forward in the French course, combining texts from early modern France with modern or contemporary objects, and as they selected which objects they would contribute to the project, they also demonstrated what they believed to be the relevance of studying these sources from a distant past. Conversely, by juxtaposing 16th- and 17th-century texts with modern objects, they found opportunities for renewed consideration and new reflections on early modern works. As one student remarked, "It was interesting to see how relevant Renaissance texts

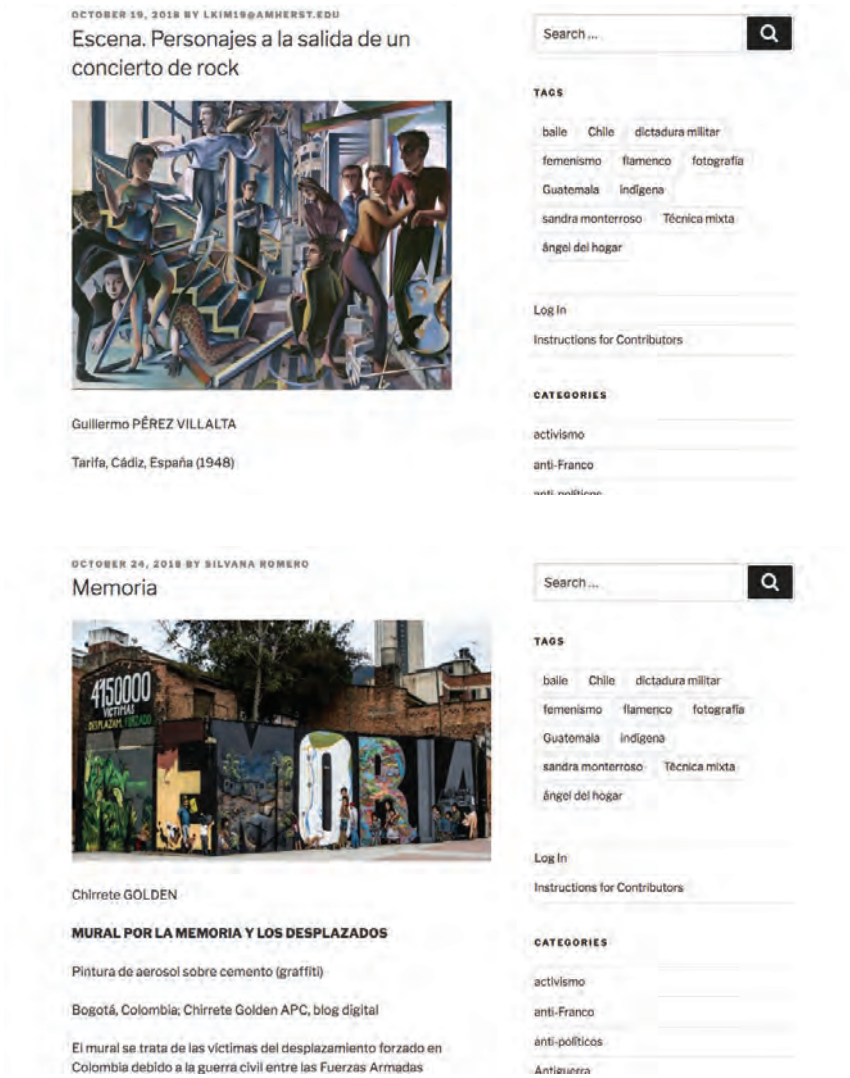


Figure 8a–b. Two examples from the final digital exhibit.

are to the search for truth today and I enjoyed making recordings to explore those differences."

In the Spanish course, the final digital exhibit (Figure 8a–b) existed as a series of blog posts connected via keywords on the course WordPress site. Growing from the vision students had developed of their final exhibitions from classroom activities, the polished digital exhibit space served as a model for how students found opportunities to bring together their individual interests,

language skills, and cultural competency in a cohesive display. Students appreciated the autonomy they had to design their own project. One student wrote in an end-of-semester evaluation that "[t]he freedom we've had to choose our own topics has been incredibly impactful on how much I've learned and how I was able to study a topic that interested me," while another emphasized the design of the activity, writing that "[t]he process of creating our own exhibitions has allowed me to investigate more into a specific topic that I would likely not be able to otherwise."

The intellectual and pedagogical scope of the two digital exhibitions connected each learner not only with their peers, but also with other on-campus groups and resources, with future students, and even with visitors who may not be members of the campus community. The exhibitions, records of a given moment in time as conceived by a particular group of learners, also serve as a model for future iterations. As such, the LC2 classroom—as represented by the French and Spanish courses studied here—is also conducive to "finding opportunity," the third MCL indicator.

5. Conclusions and Future Directions

The case studies in this article provide two frameworks for designing and implementing a creative Maker-based assignment in literature courses where material is taught in the target language. One model foregrounds the individual student's exploration of a given topic, with peers offering feedback at various stages, and the other begins with the creation of individual assignments and culminates in a collaborative final product. Both courses mark a departure from the more conventional individual essay that is assigned in upper-level language and culture courses by embracing the tenets of the Maker movement. This move did not compromise their commitment to close reading and critical thinking, however, or to cultivating reading, writing, speaking, and listening skills in the target language. On the contrary, by opting to integrate these goals within a creative framework and scaffolding smaller assignments toward a final project, these courses actively multiplied opportunities for students to cooperate and meaningfully engage with the work of peers, while fostering collaboration with campus partners. The benefits of adopting a creative model, and that of the exhibit more specifically, have been documented by Prendergast and Totleben (2018) and by Davy and Schindler (2015), who emphasize that "curating an exhibit challenges them to think differently about audiences and how their research can be conveyed visually and cohesively." Prendergast and Totleben similarly observe the impact of such projects on developing community within the classroom, across campus, and beyond.

While teaching and learning in the digital age are not without their challenges, they also create opportunities to work with a wider variety of material and adapt to changing pedagogical modalities, particularly as we continue to live through COVID-19. Although engagement with virtual material is not a substitute for the experience of real objects and physical spaces, the digitized sources and resources make texts and artifacts readily available, and are a viable substitute for a course based in the United States. An institution's libraries and museums do not need to have a rich collection of rare books and objects in order for students to access, analyze, and study them; they need only Internet access. If this democratization of knowledge and resources represents the best of the digital world, the virtual exhibit, itself made possible through digital tools, drives this practice. In this process of working with virtual artifacts and producing digital publications, there is also tremendous potential for extending the skills of close reading, analytical thinking, and evaluation to the digital realm, as students learn to discern between reliable and questionable sources. In turn, when students are generating the content of their own virtual publications, they will have greater awareness of their responsibilities as producers of knowledge.

These two courses add to the body of growing literature (Grandl, Ebner, & Strasser, 2019) endorsing an MCL framework within the arts and humanities. By demonstrating the underlying presence of MCL indicators in their advanced literature classes, the two case studies support others that recognize that experimentation, which is strongly linked to STEM fields, and creativity, which is a pillar of the plastic and performing arts, also have a place in the humanities. The Maker culture invites us to experiment with course design, seeing which activities work and which do not (sometimes in real time), and to tinker with steps of the process ahead of subsequent phases or in anticipation of future iterations. As exemplified by the collaboration between the instructors of the two courses, as well as their partnerships with departments and offices on campus, the MCL framework also generates community connections and invites other voices to partake in the design process of various iterations. Moreover, students are no longer just consumers of knowledge, but are now also co-creators of new knowledge shared with an audience beyond the walls of the classroom and beyond the duration of a one-semester course. The hands-on approach to the study of language, culture, and literature also invites students to more meaningfully invest in these objects and actively reflect on why their study and conservation matter. Thus, it is no longer the scholars and teachers who champion an education in languages and literature, or in the humanities more generally, but the students themselves, who, in discovering and defining the intellectual and personal pertinence of this material, become advocates for MCL as well.

Notes

1. The digital components of this course also lend themselves to the remote environment. Indeed, the second iteration of this course was mounted for the F20 semester, adapted as an online-only class taught synchronously via Zoom with no analog components.
2. "Ni una menos," a Latin America-based variant of the #MeToo movement against sexual abuse and harassment in the United States, translates as "not one [woman] less."

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