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# Using Personalized Adaptive Learning to Promote Industry-Specific Language Skills in Support of Spanish Internship Students

**Abstract**: This essay offers a response to the challenge of preparing student interns to successfully utilize Spanish professional terminology in legal and medical settings. The authors developed a personal adaptive learning (PAL) course to address vocabulary language deficits experienced by Spanish internship students. PAL technologies provide students of Language for Specific Purposes (LSP) the opportunity to engage in vocabulary learning through personalized feedback and alternative learning content. Implementing Cavanagh et al.'s (2020) Framework for Adapting Learning Design, the authors designed Spanish language modules for legal and medical terminology using Realizeit, a PAL platform that allows instructors to create their own content and assessment items. PAL modules for both legal and medical terminology were added to the Canvas learning management system of the Spanish Internship course and students could select the Realizeit module that fit their internship placement (legal or medical). PAL holds enormous potential to help LSP learners build mastery of industry-specific terminology that will be attractive to potential employers.

*Keywords*: internships, personalized adaptive learning, second language, Spanish, terminology

The vital importance of internships for college and university students has never been more evident. Internships pave the way for graduates to enter their chosen career paths (Barriales & Beltrán, 2019; Knouse & Fontenot, 2008; Risner & Egúsquiza, 2016). For students who major or minor in a world language, internships represent opportunities to practice language skills in a whole new way (i.e., without their instructor or classmates' support and in a real-world context). At the University of Central Florida (UCF), Spanish language internships are offered (in the United States and internationally) through the Department of Modern Languages and Literatures in collaboration with the Division of Teaching and Learning's Internship Program. Between 2016 and 2020, 30 Spanish students have participated in internships through this program. Internships may be done in-state (e.g., Orlando, Tampa, Miami, Jacksonville), out-of-state (e.g., Texas, Illinois), or internationally (e.g., Argentina, Peru). To prepare students for their internship, faculty provide instruction for a period of two to three weeks in industry-specific (e.g., medical or legal) terminology. The Spanish internship course at UCF has incorporated PAL to allow students to learn and practice this industry-specific terminology to promote student

success. In this essay, the authors describe the process of designing and developing Spanish language PAL modules that focus on legal and medical terminology.

## Background

Students in US colleges and universities who major or minor in a second language (L2) may be motivated by primarily linguistic or pragmatic interests. Linguistically motivated students are driven by personal achievement; they seek to be able to communicate in the L2 in multiple contexts without specific career or financial applications (Allen, 2010). However, most 21st century students have more pragmatic expectations for their studies (Baker et al., 2018; Crouse, 2013; Winke et al., 2018). These students, who are primarily pragmatically oriented towards learning another language, tend to focus on the tangible benefits of language-learning, including higher salaries, international job opportunities, or job security (Allen, 2010; Language Flagship, 2009; Stein-Smith, 2018).

Whether primarily motivated by linguistic or pragmatic outcomes, L2 students want to know how they will use their newly acquired skills and knowledge as they move forward in their professional, personal, and academic lives (Baker et al., 2018; Crouse, 2013). Employers in the United States have demonstrated that L2 skills are valuable in the workplace because of the demands of international business as well as the nature of an increasingly multilingual domestic culture (New American Economy, 2017; Sánchez-López, 2014). Studying another language improves communication skills that are required for the competitive global workplace (Pew Research Center, 2016). For multilingual speakers, opportunities to apply their language skills in professional contexts are growing (Common Sense Advisory [CSA], 2020; Globalization and Localization Association [GALA], 2020; Stein-Smith, 2016, 2018; Winke et al., 2019). For example, in January of 2020, the CSA reported that the global language services and technology market grew 6.62% to US$49.60 billion from 2018–2019. By 2021, GALA (2020) estimates that the market for language services will rise to US$56.18 billion. In the US, the high number of native Spanish speakers (41.5 million; Duffin, 2020) drives the demand for bilingual speakers (English and Spanish) in such diverse contexts as government, the legal system, and healthcare (Martínez, 2020; Naudi, 2020). For students learning an L2 in higher educational settings, internships clarify how newly acquired degrees can be used in the marketplace. In its modern form, an internship is a specialized form of experiential learning (Dewey, 1938) that, ideally, prepares the learner for future experiences in their selected field of work (Lafford, 2013). LSP internships usually feature a course component (onsite or online) that prepares students for reflection once the experience is complete (Lafford, 2013).

As students begin considering various internship opportunities, they may have to quickly expand their vocabularies to include terms and phrases specific to a potential internship sponsor. This need to build their industry-specific terminology applies to heritage language (HL) learners as well, despite HL learners' apparent communication skills and ability to connect socially with Spanish speakers (King de Ramírez, 2017). Learning the language of a specific profession or industry, or a more specialized subfield (e.g., the medical specialty of sports rehabilitation), may help to clarify for L2 and HL learners the benefits of language study.

## Spanish Internships at the University of Central Florida

As part of the Integrative Academic Center for Engagement, Experiential Learning at UCF offers support to students who seek out opportunities to blend learning in the classroom and real-world experiences with the goal of gaining a competitive edge (UCF, 2020c). Faculty who offer internship courses also receive guidance from Experiential Learning, including how to structure an internship course and required number of contact hours (UCF, 2020b). Student internship placements vary widely and can include non-governmental organizations, governmental offices (federal, state, and local), foreign consulates, hospitals, clinics, legal offices, the courts, public and private schools, colleges, and universities. Internships through Experiential Learning in the Division of Teaching and Learning typically include a face-to-face component with a specific work schedule. They may also include a virtual component or a combination of face-to-face and virtual work. The requirements for specific internships are set by the employer, who typically requests a resume from each internship candidate. Then, selected candidates are invited to an interview (face-to-face or virtual) and, if an offer of an internship placement is made, a contract or agreement is signed by all parties involved.

## Internships in Legal and Medical Systems

For students pursuing majors and minors in Spanish at UCF, internships are encouraged but not required; however, the certificate program in translation and interpretation mandates successful completion of an internship. Also, students in the Spanish legal and medical certificate programs are encouraged to complete an internship (UCF, 2020c). The majority of internship opportunities for Spanish internship students fall into two areas of community outreach and service: the legal and medical systems. The legal system is a "rationing system"; through the rule of law, this system "issues commands, extends benefits, and tells people what they can and cannot do" (Friedman, 1987, p. 19). Healthcare involves intentional human actions dedicated to promoting, restoring, and maintaining health (World Health Organization, 2009). In Florida's legal and healthcare systems, there is a need for Spanish translation services for non-English speakers of Spanish and Spanish speakers with very limited English; barriers to these services, including legal advice and medical care, can have life-long negative impacts on citizens and non-citizens (Ortega et al., 2020; Pavlenko et al., 2019). At US colleges and universities, this need for Spanish translation services is reflected in the increased depth and variety in Spanish course offerings, including Spanish for medicine and law (Long & Uscinski, 2012). The demand for translation services also generates internship opportunities for LSP translation. The preparation of Spanish students for their internship experiences involves teaching terminology for specific fields (e.g., medical and legal terminology) before students begin their internship with an employer.

## Spanish Legal and Medical Terminology

One of the challenges for teachers and students of language and law is the distinct nature of legal terminology: formal, deliberately flexible yet extremely precise, and complex (Northcott, 2013). Another feature of legal terminology is its use of Latin and Latin pairs (e.g., *ad litem*), an expression of "the lawyer's need for certainty and precision" (Northcott, 2013, p. 215). Even for native and heritage speakers of Spanish, the language of the law can appear obscure. Medical

terminology shares many characteristics with legal terminology, namely a prevalence of Latin terminology, preciseness and complexity, and formality. Regarding medical terminology, "even by the standards of other disciplines, medicine is well known for its large corpus of technical or specialized terms, mostly borrowed from Greek and Latin—sometimes with little morphological adaptation (e.g., *diabetes, embolus*)" (Ferguson, 2013, p. 253, italics in the original). For the Spanish instructor developing medical and legal terminology instruction, continuing awareness of internship sponsors' professional focus and needs will continue to shape the type of terminology needed by interns to be successful.

**Building a Terminology Repository**

Terminology, according to Cabré (1999), is "part of the lexicon defined by subject matter and pragmatic usage; for end-users, terminology is a set of useful, practical communication units which are assessed according to criteria of economy, precision, and suitability" (p. 11). As Larson (1984) and other translation theorists have stated, knowledge of terminology specific to a specialized area is essential for an accurate, natural, and communicative translation, the three characteristics of an "ideal" translation. Terminology is not, however, the only necessary component in LSP; other components include syntax, phonetics, and cultural context (Sánchez-López et al., 2017). For language educators, preparing students to reach competency, especially in the use and comprehension of "appropriate terminology in specific contexts" (Risner & Egúsquiza, 2016, p. 25), is vital. Spanish for specific purposes includes specialized and technical types of vocabulary that is used in a particular area of professional use (Coxhead, 2013). That said, specialized vocabulary alone is inadequate for proficiency; everyday language and simple terminology still count (Coxhead, 2013).

Building terminology in a target language (TL) remains just one part of communicative competence, defined as the ability of a language user to communicate effectively in that language, demonstrating knowledge of grammar, syntax, and context (Hynes, 1972). However, acquisition of terminology is important and, for LSP students, can serve as a focus around which competency can emerge (Chen & Chun, 2008; Nation, 2009; Saville-Troike, 1984). Activities that aid in the development of vocabulary, "developing a memory connection between form and the meaning of the word" (Kilickaya & Krajka, 2010, p. 61), support L2 learners'communication in different language contexts (Hunt & Beglar, 2005). Communication can occur (albeit without necessarily rising to the level of competence) through use of L2 terminology even without correct grammar (Penno et al., 2002).

One of the challenges associated with building a repository of specialized terminology is the size of this terminology set is not clearly established (Coxhead, 2013; Nation, 2008). According to Nation (2008), "We do not know a lot about technical vocabularies but they probably range in size from about 1,000 words to 5,000 words depending on the subject area" (p. 10). Instructors must curate vocabulary content with a focus on what is most useful in the professional context along with what is going to provide students with the greatest benefit in the long term. There are several methods for identifying technical vocabulary for specific purposes. The first method involves consulting discipline-specific resource materials and professionals in the field. The second method consists of developing a corpus (i.e., a collection of written or spoken texts) to identify specialized vocabulary. The third approach to identifying specialized terminology involves categorizing terms using a scale to analyze discipline-specific textbooks

(e.g., medical textbook). Chung and Nation (2003) developed a four-step scale to categorize vocabulary:

1. words that have no connection to the subject area;
2. words that are minimally connected to subject area;
3. words that are more closely related to subject area; and
4. words that are closely related to subject area.

Based on their analyses, one-third of words in anatomy textbooks were technical (Chung & Nation, 2003; Coxhead, 2000). This scaled approach was applied by Wang et al. (2008) in the development of their medical academic word list. The authors included three principles (specialized occurrence, range, and frequency of a word family) in their word-selection criteria; the result was 623 identified words (Wang et al., 2008).

**Adaptive Learning Design**

Adaptive learning, as defined by Shute and Zapata-Rivera (2012), is the process of "monitor[ing] important learner characteristics and mak[ing] appropriate adjustments to the instructional milieu to support and enhance learning" (p. 7). The value of adaptive learning resides in its function as an adaptive process. Learners discover multiple pathways to sources of information, increasing the opportunities for learning to occur, and improving the processes of learning (Bates, 1989; Hall, 2004). Taking a cue from the world of athletics, Silver (2012) recognized that highly functioning athletes improve over time in a non-linear trajectory; they learn from receiving continuous feedback from coaches who are engaged in the learning of their client. The experience of being wrong, and adjusting in response to instant feedback, generates an environment in which learning takes on a "controlled intensity" (Dziuban et al., 2016, p. 75). Effective adaptive learning utilizes this controlled intensity, rather than a linear, rigid approach that may ultimately impede progress and learning (Dziuban et al., 2016).

PAL can be challenging to define, in part because there are so many points of entry: learner cognition, experience, technology, incrementalism, etc. For this essay, PAL is defined by its capacity to "adjust instruction based on learner abilities and/or preferences, at any particular point of the instruction process, with the goal of acting on identified learner characteristics and improving the efficiency and efficacy of learning" (Slavuj et al., 2017, p. 65). Each PAL system shares three fundamental components: 1) source of adaptation (adapt *to what*?); 2) the target of adaptation (adapt *what*?); and 3) the link between the first and second components that consists of the location of adaptation (*where* adaptation occurs) (Brusilovsky, 2012; Knutov et al., 2009; Slavuj et al., 2017; Vandewaetere et al., 2011).

Adaptive learning technologies have been emerging in higher education as an effective way to personalize the learning experience for students at scale. These technologies utilize machine learning and other sophisticated algorithms to provide each student with a learning experience tailored to them in real-time based on their skills and learning needs. Essentially, the delivery of learning content and assessment is adjusted based on student performance. Both prior knowledge and knowledge gaps are considered to meet the student where they currently are and get them where they need to be.

PAL, paired with highly responsive digital systems, is a recent addition to the options available to instructors and other course content developers. At UCF, Canvas serves as the online learning management system; this system accommodates PAL content. Advancements that have facilitated the growth of PAL systems include a shift away from freestanding, disconnected

reference and tutoring systems to widely accessible web-based systems (Natriello, 2013). "Adaptive educational technologies take account of current learning performance and adapt accordingly to support and maximize learning. By design, they present personalized educational experiences for each learner" (Natriello, 2013, p. 7).

The value of adaptive learning rests in its key element: learner feedback (Dziuban et al., 2016; Levitt & Grant, 2014; Schultz, 2010). For LSP learners, this element of feedback drives mastery and supports the acquisition of specialized terminology. Chapman and Grant (2012), in their functional hierarchy for adaptive learning, include three components: repeat, revise, and reassess. The last step, reassess, is the most important step. In 2020, Cavanagh et al. published a framework for adaptive learning design that features five key design features that build on each other: 1) objective-based learning bits; 2) personalized assessment and content; 3) adaptive learning path; 4) alternative content; and 5) procedurally generated questions (Table 1). While the first three design features are necessary to create a PAL course or course component, the last two (alternative content and procedurally generate questions) "add important value to any PAL course experience" (Cavanagh et al., 2020, p. 176). Alternative content means that students are presented with the content in more than one way (e.g., use of an infographic or video), thus increasing the likelihood of engaging the learner while procedurally generating questions promotes a "personalized (contextually relevant) and adaptive (evolving) learning experience" (Cavanagh et al., 2020, Procedurally Generated Questions section).

**Table 1**

*Adaptive Learning Design Framework: Five Design Elements*

| **Design Element** | **Description** |
|---|---|
| 1. Objective-based learning bits | Identify small chunks of knowledge |
| 2. Personalized assessment and content | Develop content, assessment items, and detailed feedback |
| 3. Adaptive learning path | Map learning bits into the prerequisite network |
| 4. Alternative content and choices | Add additional content or additional practice with different variables |
| 5. Procedurally generated questions | Construct personalized experience based on characteristic of learner (e.g., major field of study) |

*Note*: Adapted from "Constructing a Design Framework and Pedagogical Approach for Adaptive Learning in Higher Education: A Practitioner's Perspective," by T. Cavanaugh, B. Chen, R. A. M. Lahcen, and J. Paradiso, 2020, *International Review of Research in Open Distributed Learning, 21*(1), p. 174. Copyright 2020 by Athabasca University. Creative Commons Attribution 4.0 International (CC BY 4.0).

**Personalized Adaptive Learning and Spanish Terminology**

Successful interns must know the terminology, usage, situational circumstances, cultural characteristics, and resources associated with each area of specialization (in this case, legal and medical fields). To maintain the fidelity to the legal or medical text, the translator must be proficient in the concept and terminology of both the source language and the target language (Doyle, 2008). The Spanish internship course at UCF has incorporated PAL to allow students to practice new lexical items until they are fully integrated into students' working repertoires. Students learn and practice, receive immediate feedback, are offered additional reinforcement, and complete terminology-oriented assessments with a high level of accuracy (90%) before continuing to another segment of the terminology module. It is important to note, however, that industry-specific vocabulary is just one of a cluster of components of LSP, including cultural knowledge, critical thinking skills, and empathy (Anders, 2014; Long, 2010).

Currently, UCF offers several commercial PAL platforms, including Realizeit and Acribatiq; faculty can also adopt existing adaptive courseware from commercial vendors such as ALEKS, Knewton, and LearnSmart (UCF, 2020a). In 2014, UCF launched a PAL pilot using the Realizeit platform, which was chosen primarily because Realizeit is "content agnostic" in that it does not contain non-editable publisher content, but rather, allows instructors to include their own learning content and assessment items. Another benefit of Realizeit is that it can be integrated into an institution's learning management system, allowing instructional flexibility. Additionally, the delivery of both learning content and assessment in Realizeit is adaptive, whereas it is often one or the other that is adaptive in other platforms or products. Learning content is delivered to the student in a rather granular format, where small pieces of content are presented and then followed by several assessment questions and immediate feedback. If students demonstrate mastery by performing well on the assessment questions, they will be moved forward in the course and be presented with more advanced content and questions (Chen et al., 2017). If students do not demonstrate mastery or do not perform well, they will be presented with recommended content to review as well as less advanced or less difficult questions, providing them with opportunities to build or rebuild knowledge before proceeding in the course.

To help guide the design and development of a PAL course, UCF offers a professional development course to faculty/instructors. The course places faculty/instructors into the student role in a Realizeit course, where they can experience how students will ultimately be presented with content and assessment items and will interact with the system in general. The course is broken into six main areas:

Module 1: Introduction to Personalized Adaptive Learning
Module 2: Course Organization
Module 3: Course Content
Module 4: Assessment
Module 5: Grading Strategies
Module 6: Course Management

Throughout the six modules, instructors are guided on how to design and develop a single module for their own course. The instructor receives guidance and support from an assigned instructional designer throughout this course and beyond to complete the design and development of any additional PAL modules.

The core of the PAL faculty development course includes modules two, three, and four. In these modules, instructors ultimately determine which parts or topics of their course are to be designed for PAL. They then select and create learning content for each of these parts/topics and develop assessment questions for the same parts/topics. For the L2 internship course, the focus of selected topics remained on the necessary medical or law vocabulary that students must master to be successful in their internships and beyond. Additional topics to include (along with their respective learning content and assessment questions) would be prerequisite topics for remediation and review before mastering the topics of focus.

In spring 2020, PAL modules for both medical and legal terminology were added to the Canvas online companion course for Spanish internship. In the companion course, students select the Realizeit module that fits their internship placement (e.g., legal terminology module if internship takes place in a courthouse or other legal setting) and complete that module before starting their on-site internship. Students can also revisit their terminology module throughout the semester as needed.

When planning the PAL modules for the Spanish internship course, the authors considered the various knowledge levels of the students beginning the internship course. For example, all students (including HL and L2 learners) need to be presented with the necessary medical or law terminology for their internship in a variety of contexts and formats. Still, some students may also need additional context, prerequisite knowledge, or review content to successfully learn and master the required internship vocabulary. While more traditional (non-PAL) approaches may incorporate some of this additional context or prerequisite content, much more content is typically provided in an adaptive platform. The exact amount of learning content was determined by the instructor, often with guidance from an instructional designer. Similarly, the amount and types of assessment questions were determined by the instructor and tied closely to the content selection. When the additional content and questions appear in the Realizeit platform, the system presents both as needed to students until they can demonstrate mastery.

In designing and developing a medical terminology lesson, the five design elements of the adaptive learning design framework were applied in the following manner. First, small items of knowledge based on the course learning objectives were identified (Design Element 1), such as a brief lesson on necessary Spanish phrases regarding medical mask usage.[1] Second, learning content and assessment items were sourced and created for use in the system (Design Element 2). Next, the content and assessment items for the topic were arranged into an adaptive learning path (Design Element 3), linking it with prerequisite topics. Alternative forms of content were also provided (Design Element 4), such as written dialogue serving as an alternative to an audio dialogue. Finally, procedurally generated questions were introduced (Design Element 5) to further personalize the student experience.

Multiple versions of the medical terminology content appear in Figures 1–4. Regarding the adaptive learning design framework, Figures 1–4 correspond to Design Elements 1–4. Figures 1 and 2 depict two alternative forms of learning content for the same knowledge/information area. Figures 3 and 4 illustrate two different types of assessment items that correspond to the learning content, with Figure 4 providing immediate feedback to guide the student.

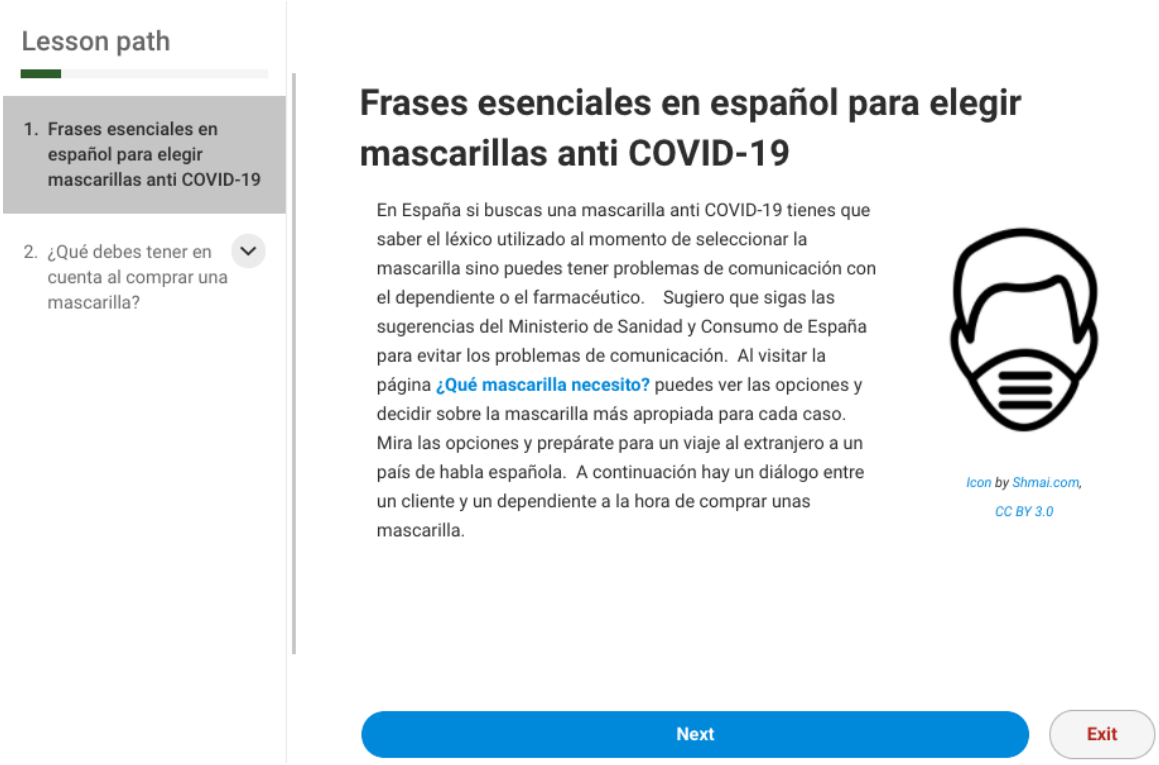
Figure 1 contains information that would be helpful when purchasing a medical mask in Spain, including following the suggestions of the Spanish Ministry Health and Product Safety

[1] The wearing of medical masks in public increased significantly in 2020 as a result of the new coronavirus called SARS-CoV-2 (COVID-19; World Health Organization, 2021, “Q&As on COVID-19” section).

and knowing the relevant lexicon. Also, Figure 1 recommends visiting the Spanish-language web page “What Mask Do You Need?”

**Figure 1**

*Essential Spanish Phrases for Choosing a COVID-19 Mask: Student View of Content Delivery with Written Introduction and Audio Media*




*Note.* See the translation to English in Appendix A.

Figure 2 presents a sample dialogue between Juan, a customer looking for a mask, and a salesperson. Juan needs a mask for two people with health problems and one person who is in contact with the virus. The salesperson informs Juan that they do have masks and they come in two types: surgical and hygienic (EPI) for those who have contact with the virus. Juan also needs masks for two children (ages six and seven). The salesperson has masks for the adults and the children, with the children's masks available in three sizes. The type of mask that the salesperson recommends is the hygienic-style mask that meets the standard of quality (UNE). Juan needs two masks for children who are asymptomatic positive; he also prefers surgical masks for them.

**Figure 2**

*Essential Spanish Phrases for Choosing a COVID-19 Mask: Student View of Content Delivery with Written Alternative to the Audio Dialogue*

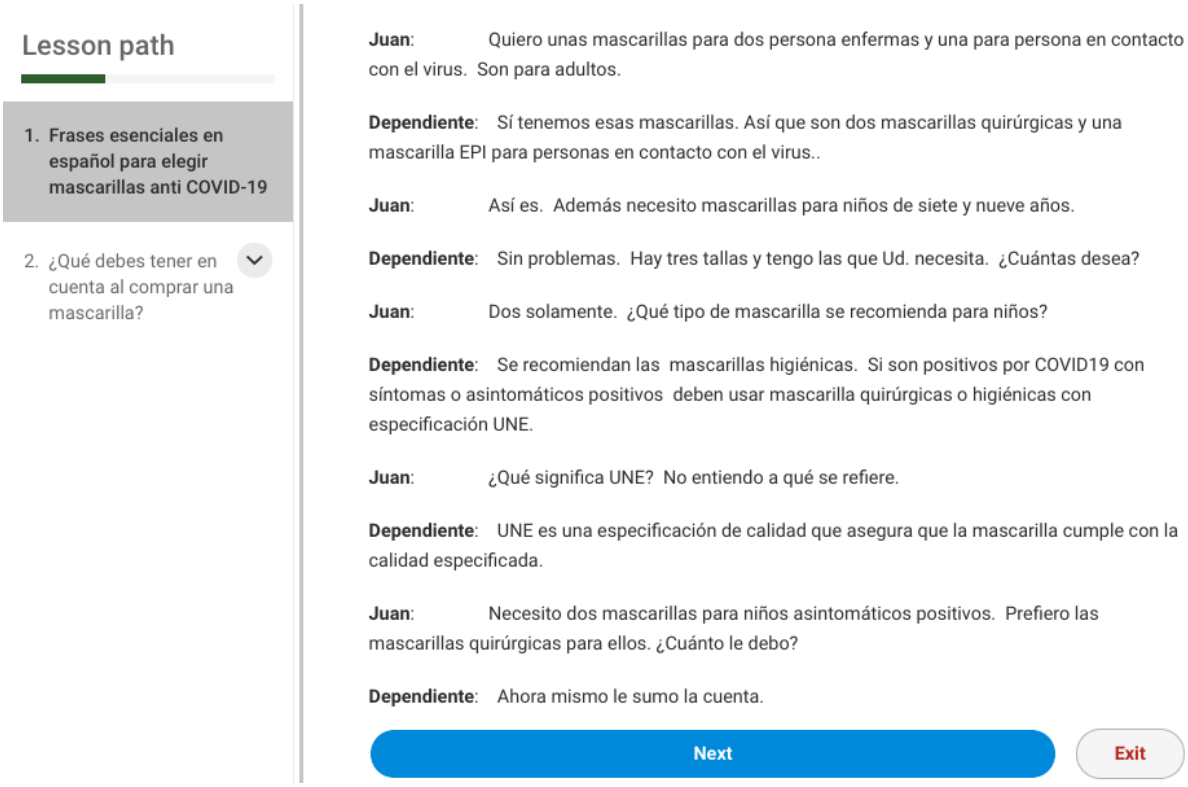


Figure 3 illustrates an assessment based on the information presented in Figures 1 (choosing a mask) and 2 (dialog between Juan and salesperson about choosing a mask). The question in Figure 3 translates to “How many masks in total does Juan need?” There is a dropdown menu of possible answers and an answer has been selected (e.g., four); the learner must click on “Submit Answer” to receive feedback.

**Figure 3**

*Sample of Assessment Item Delivery with a Dropdown Selection Question*

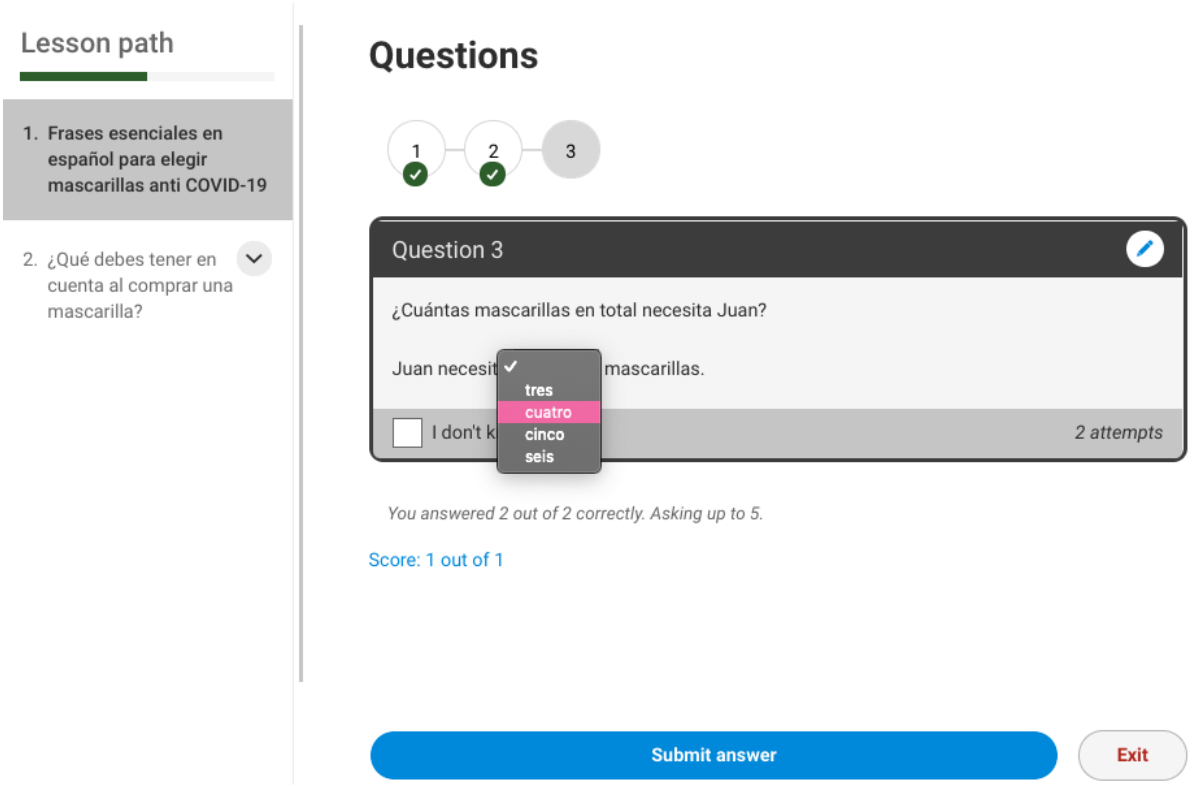
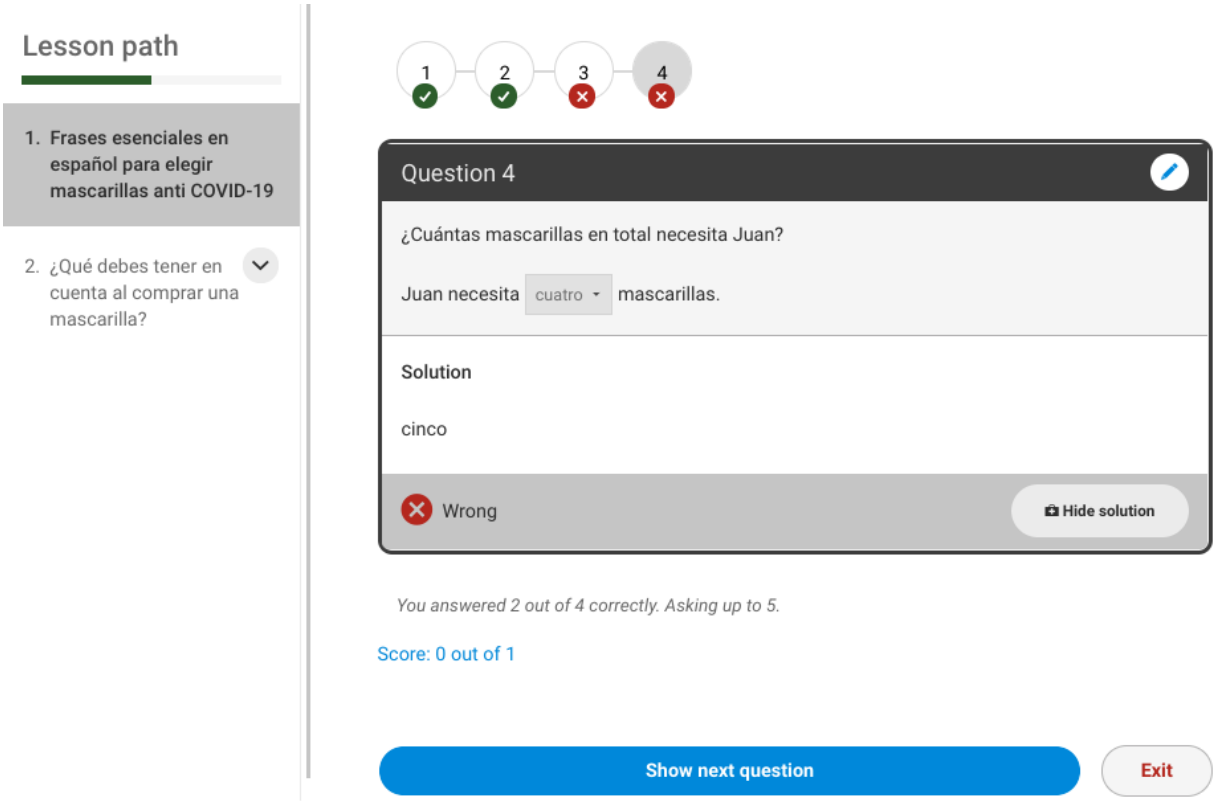


Figure 4 displays the same assessment content as Figure 3 with one important difference: the feedback is delivered to the learner immediately.

**Figure 4**

*Sample of Assessment Item Delivery with Immediate Feedback Provided*




Multiple versions of the legal terminology content appear in Figures 5–8. Regarding the adaptive learning design framework, Figures 5–8 correspond to Design Elements 1–4. Figures 5 and 6 feature two different versions of the same course content (legal terminology), with Figure 5 focusing on Spanish terminology and Figure 6 focusing on English terminology. Figures 7 and 8 depict two different types of assessment items that directly correspond to the learning content in the legal terminology lesson. Also, like the medical lesson example, the assessment items in the legal lesson provide students with feedback on their performance, and randomized and procedurally generated questions continue to personalize the student learning experience as the student continues to interact with the lesson.

Figure 5 provides a list of Spanish legal terminology (court administrator, legal advisor, court clerk, criminal case, bench trial/judge decides the case). Figure 6 features a list of English-language legal terminology.

**Figure 5**

*Student View of Content Delivery with Written Spanish Vocabulary*

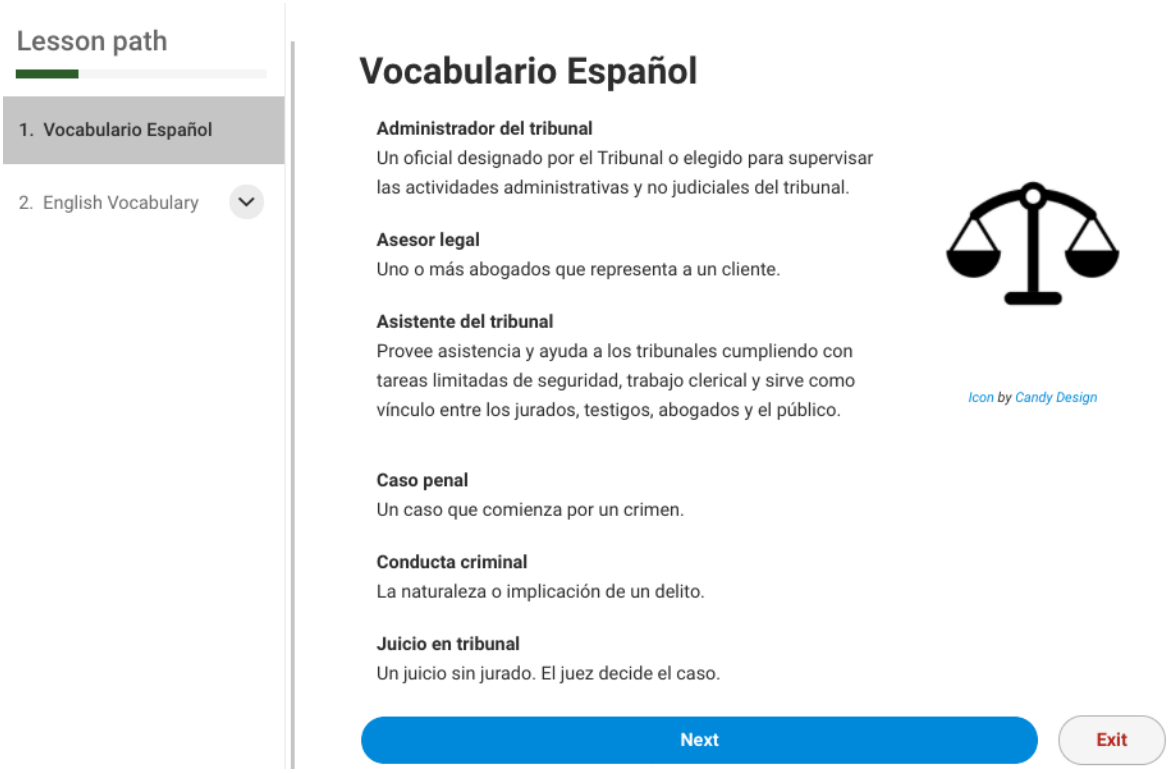


**Figure 6**

*Student View of Content Delivery with Written English Vocabulary*

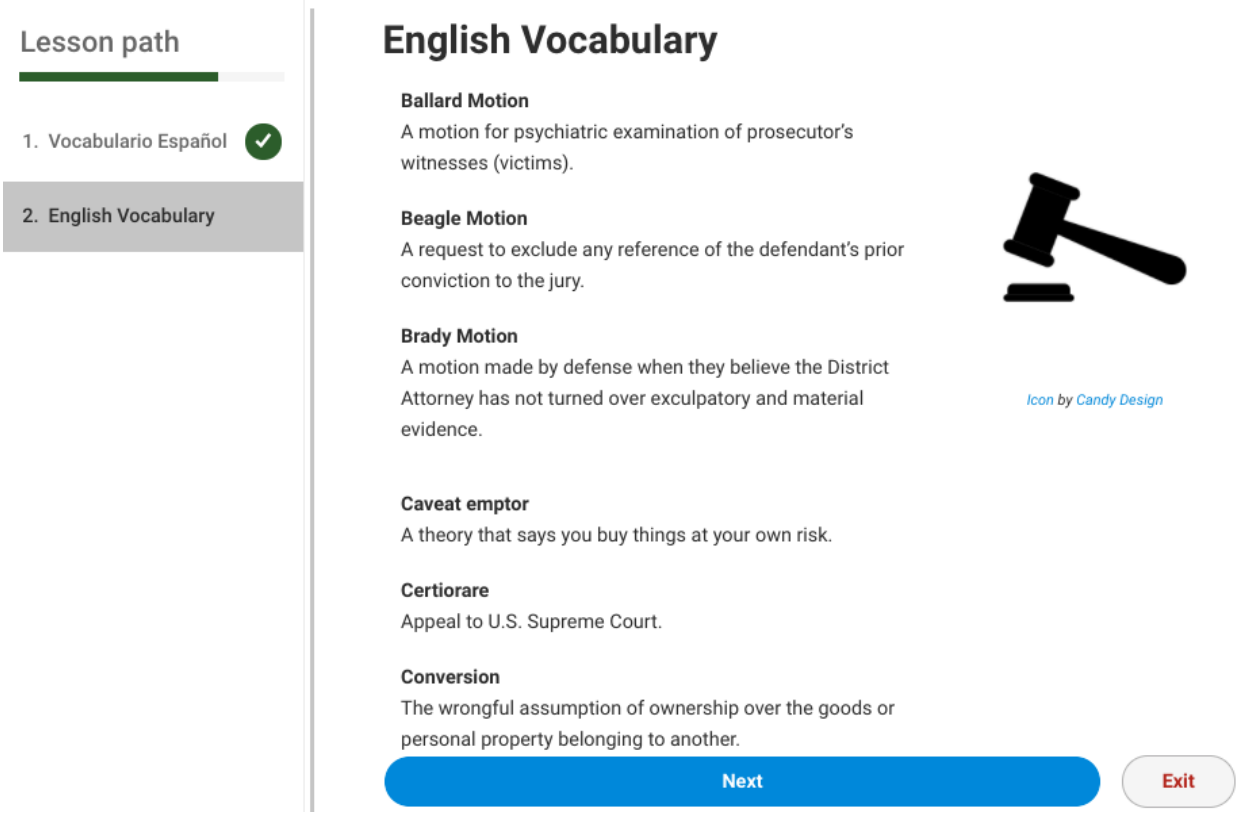



Figure 7 features a multiple-choice question (One or more lawyers representing a client) along with a choice of three possible answers (court-appointed special attorneys, legal advisor, court administrator). Students click on "view solution" to check their answers. Figure 8 displays a drag-and-drop matching self-assessment, with legal vocabulary in English and Spanish. In this self-assessment, students receive immediate feedback without having to perform any action. (See Figures 7 and 8 on following pages.)

**Figure 7**

*Sample of Assessment Item Delivery with a Multiple-Choice Question*

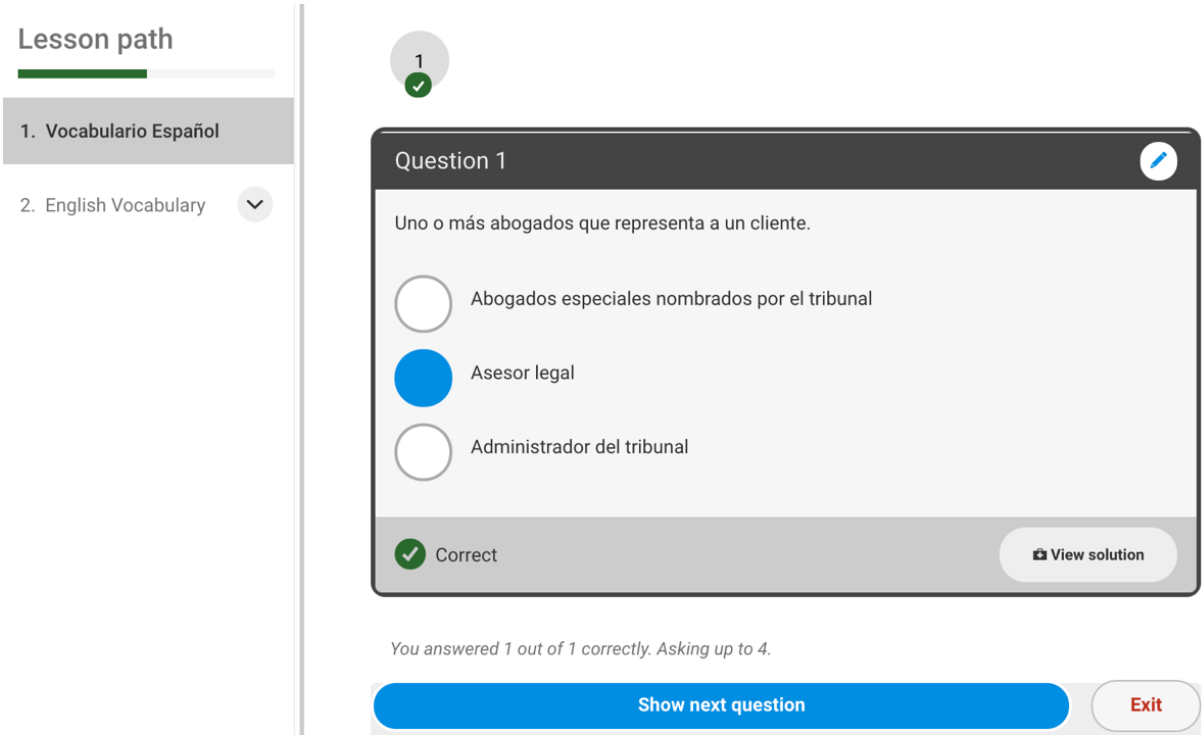
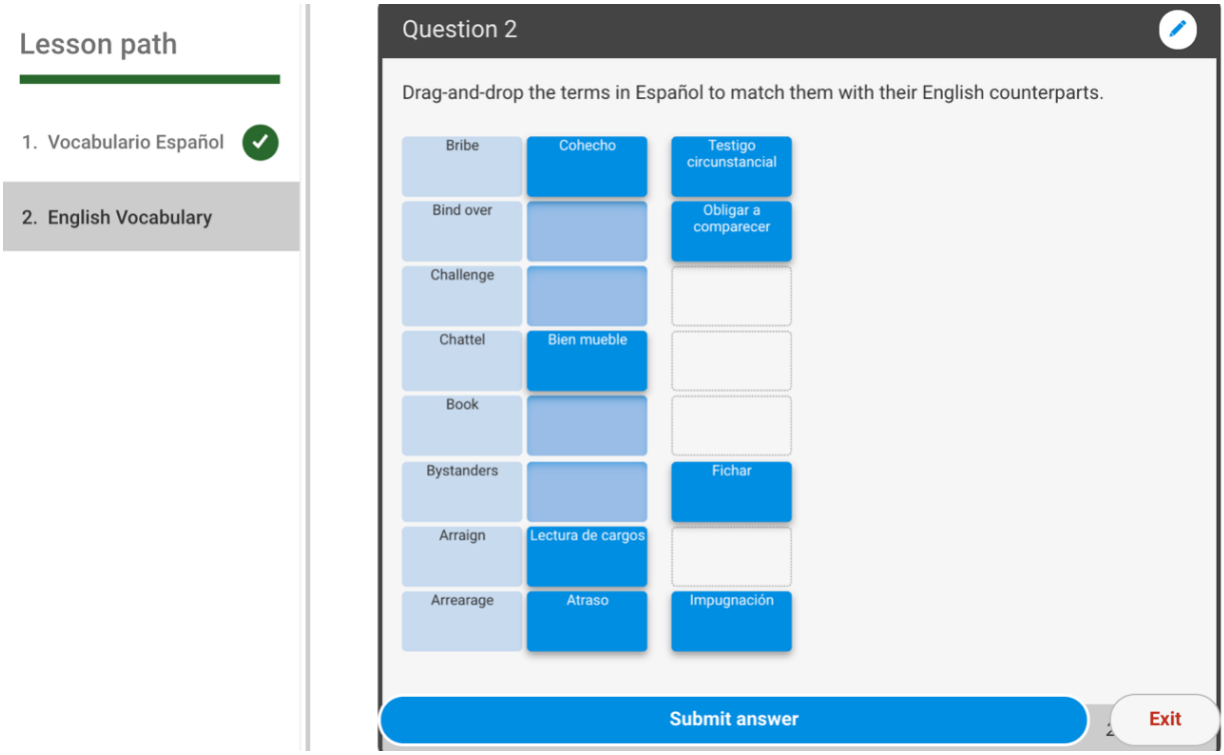


**Figure 8**

*Sample of Assessment Item Delivery With Drag-and-Drop Matching Questions*




## Conclusion

Communicative competence in an LSP involves more than the ability to use an industry-specific repertoire of terminology; it involves an understanding of grammar and context (Coxhead, 2013; Sánchez-López et al., 2017). For students interning in a Spanish-speaking setting, however, a foundation in the terminology of a specific industry can serve as basis on which to build competence. For LSP students participating in internships at the college level, the mastery of industry-specific terminology can be a daunting, if necessary, task. Internship sponsors are in high demand and expect internship students to perform at a high level, both in translation and interpretation. At UCF, the Spanish internship course includes two PAL modules that focus on industry-specific terminology (medical and legal). Using the Realizeit PAL platform, internship students engage with terminology-driven content and feedback-driven assessments. Additional content and practice address gaps in mastery while procedurally generated questions construct a personalized learning experience based on the characteristics of the learner. Spanish language internships offer students the opportunity to build their Spanish medical and legal vocabularies in preparation for beginning a career in clinics, hospitals, law offices, and courthouses. Including these PAL elements as part of a course may increase students' confidence and serve as a vital resource throughout their internship experiences.

## References


Allen, H. W. (2010). Language-learning motivation during short-term study abroad: An activity theory perspective. *Foreign Language Annals, 43*(1), 27–49. https://doi.org/10.1111/j.1944-9720.2010.10158.10158.x

Anders, G. (2014). *In 2020, this will be the most important job skill*. Quartz. http://qz.com/319487/in-2020-this-will-be-themost-important-job-skill/

Baker, R., Bettinger, E., Jacob, B., & Marinescu, I. (2018). The effect of labor market information on community college students' major choice. *Economics of Education Review, 65*, 18–30. https://doi.org/10.1016/j.econedurev.2018.005

Barriales, A. L. F., & Beltrán, C. A. S. (2019, September 12–13). *Internships within the curriculum and their importance as a bridge to the job market*. International Symposium on Engineering Accreditation and Education (ICACIT), Cusco, Peru. https://doi.org/10.1109/ICACIT46824.2019.9130247

Bates, M. J. (1989). The design of browsing and berry picking techniques for the online search interface. *Online Review, 13*(5), 407–424. http://doi.org/10.1108/eb024320

Brusilovsky, P. (2012). Adaptive hypermedia for education and training. In P. J. Durlach & A. M. Lesgold (Eds.), *Adaptive technologies for training and education* (pp. 46–66). Cambridge University Press.

Cabré, M. T. (1999). *Terminology: Theory, methods, and applications*. John Benjamins.

Cavanagh, T., Chen, B., Lahcen, R. A. M., & Paradiso, J. R. (2020). Constructing a design framework and pedagogical approach for adaptive learning in higher education: A practitioner's perspective. *International Review of Research in Open and Distributed Learning, 21*(1), 172–197. https://doi.org/10.19173/irrodl.v21i1.4557

Chapman, J. R., & Grant, M. A. (2012). *Directional sense: How to find your way around*. Institute of Human Centered Design.

Chen, B., Bastedo, K., Kirkley, D., Stull, C., & Tojo, J. (2017). *Designing personalized adaptive learning courses at the University of Central Florida*. EDUCAUSE Learning Initiative. https://library.educause.edu/resources/2017/8/designing-personalized-adaptive-learning-courses-at-the-university-of-central-florida

Chen, C. M., & Chun, C, J. (2008). Personalized mobile English vocabulary learning system based on item response theory and learning memory. *Computers & Education, 51*(2), 624–645. http://dx.doi.org/10.1016/j.compedu.2007.06.011

Chung, T., & Nation, P. (2003). Technical vocabulary in specialized texts. *Reading in a Foreign Language, 15*(2), 103–116. https://nflrc.hawaii.edu/rfl/item/76

Common Sense Advisory. (2020). *Sixteenth annual survey on the market for global languages services and supporting technologies*. https://csa-research.com/More/Media/Press-Releases/ArticleID/612/Sixteenth-Annual-Survey-on-the-Market-for-Global-Language-Services-and-Supporting-Technologies

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly, 34*(2), 213–238. https://doi.org/10.2307/3587951

Coxhead, A. (2013). Vocabulary and ESP. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 115–132). John Wiley & Sons.

Crouse, D. (2013). Language for specific purposes in the 21st century. *The Language Educator, 8*(3), 32–38. https://www.actfl.org/sites/default/files/pdfs/TLE_pdf/TLE_Apr13_Article.pdf

Dewey, J. (1938). *Experience and education*. Simon and Schuster.

Doyle, M. S. (2008). Translation and the space between: Operative parameters of an enterprise. In M. L. Larson (Ed.), *Translation: Theory and practice, tension and interdependence* (pp. 13–26). John Benjamins.

Duffin, E. (2020, April 3). *The most spoken languages in the world in 2019*. Statista. https://www.statista.com/statistics/266808/the-most-spoken-languages-worldwide/

Dziuban, C. D., Moskal, P. D., Cassisi, J., & Fawcett, A. (2016). Adaptive learning in psychology: Wayfinding in the digital age. *Online Learning Journal, 20*(3), 74–96. http://dx.doi.org/10.24059/olj.v2013.972

Ferguson, G. (2013). English for medical purposes. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 243–261). John Wiley & Sons.

Friedman, L. M. (1987). *The legal system: A social science perspective*. Sage.

Globalization and Localization Association. (2020). *Language industry: Facts and data*. https://www.gala-global.org/industry/industry-facts-and-data

Hall, S. S. (2004). I, Mercator. In K. Harman (Ed.), *You are here: Personal geographies and other maps of the imagination* (pp. 15–19). Princeton Architectural Press.

Hunt, A., & Beglar, D. (2005). A framework for developing EFL reading vocabulary. *Reading in a Foreign Language, 17*(1), 23–59. ERIC. https://eric.ed.gov/?id=EJ689121

Hynes, D. (1972). On communicative competence. In J. B. Pride & J. Holmes (Eds.), *Sociolinguistics: Selected readings* (pp. 269–293). Penguin.

Kilickaya, F., & Krajka, J. (2010). Comparative usefulness of online and traditional vocabulary learning. *Turkish Online Journal of Educational Technology, 9*(2), 55–63. ERIC. https://eric.ed.gov/?id=EJ898003

King de Ramírez, C. (2017). Preparing students for the workplace: Heritage learners' experiences in professional community internships. In M. K. Long (Ed.), *Language for specific purposes: Trends in curriculum development* (pp. 55–71). Georgetown University Press.

Knouse, S. B., & Fontenot, G. (2008). Benefits of the business college internship: A research review. *Journal of Employment Counseling, 45*(2), 61–66. https://doi.org/10.1002/j.2161-1920.2008.tb00045.x

Knutov, E., De Bra, P., & Pechenizkiy, M. (2009). AH 12 years later: A comprehensive survey of adaptive hypermedia methods and techniques. *New Review of Hypermedia and Multimedia, 15*, 5–38. https://doi.org/10.1080/13614560902801608

Lafford, B. A. (2013). The next frontier: A research agenda for exploring experiential language learning. In J. C. Amaro, G. Lord, A. de Prada Pérez, & E. Aaron (Eds.), *Selected proceedings of the 16th Hispanic linguistics symposium* (pp. 80–102). http://www.lingref.com/cpp/hls/16/index.html

Language Flagship. (2009). *What business wants: Language needs in the 21st century*. https://www.thelanguageflagship.org/media/docs/reports/what_business_wants_report_final_7_09.pdf

Larson, M. L. (1984). *Meaning-based translation: A guide to cross-language equivalence*. University Press of American.

Levitt, S. D., & Grant, M. A. (2014). *Think like a freak*. HarperCollins.

Long, M. (2010). Spanish for the professions degree programs in the United States: History and current practice. In G. Michel (Ed.), *How globalizing professions deal with national languages: Studies in cultural studies and cooperation* (pp. 22–33). Edwin Mellen Press.

Long, M. L., & Uscinski, I. (2012). Evolution of languages for specific purposes programs in the United States: 1990-2011. *The Modern Language Journal, 96*(1), 183–189. https://doi.org/10.1111/j.1540-4781.2012.01303.x

Martínez, G. A. (2020). *Spanish in health care: Policy, practice and pedagogy in Latino health*. Routledge.

Nation, I. S. P. (2009). *Teaching ESL/EFL reading and writing*. Routledge.

Nation, P. (2008). *Teaching vocabulary: Strategies and techniques*. Heinle Cengage.

Natriello, G. (Ed.). (2013). *Adaptive educational technologies: Tools for learning and for learning about learning*. National Academy of Education.

Naudi, A. A. (2020). Community service-learning translations in a legal Spanish course. *L2 Journal, 12*(1), 28-38. http://repositories.cdllib.org/uccllt/l2/vol12/iss1/TF1

New American Economy. (2017, March 1). *Not lost in translation: The growing importance of foreign language skills in the US job market*. https://research.newamericaneconomy.org/report/not-lost-in-translation-the-growing-importance-of-foreign-language-skills-in-the-u-s-job-market/

Northcott, J. (2013). Legal English. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 213–226). John Wiley & Sons.

Ortega, P., Shin, T. M., Pérez-Cordón, C., & Martínez, G. A. (2020). Virtual medical Spanish education at the corazón of Hispanic/Latinx health during COVID-19. *Medical Science Educator, 30*, 1661–1666.

Pavlenko, A., Hepford, E., & Jarvis, S. (2019). An illusion of understanding: How native and non-native speakers of English understand (and misunderstand) their Miranda rights. *International Journal of Speech Language and the Law, 26*(2), 182–207. https://doi.org/10.1558/ijsll.39163

Penno, J., Wilkinson, I. A. G., & Moore, D. W. (2002). Vocabulary acquisition from teacher explanation and repeated listening to stories. Do they overcome the Matthew effect? *Journal of Educational Psychology, 94*(1), 23–33. ERIC. https://eric.ed.gov/?id=EJ644661

Pew Research Center. (2016, October 6). *The state of American jobs: How the shifting economic landscape is reshaping work and society and affecting the way people think about the skills and training they need to get ahead*. https://www.pewsocialtrends.org/2016/10/06/the-state-of-american-jobs/

Risner, M., & Egúsquiza, C. (2016, December). Preparing students for the global workplace: The relevance of languages for specific purposes (LSP). *Dimension,* 22–34. https://eric.ed.gov/?id=EJ1207888

Sánchez-López, L. (2014). An analysis of the integration of service learning in undergraduate Spanish for specific purposes in higher education in the United States. *Cuadernos de ALDEEU, 28*(1), 155–170. http://web.aldeeu.org/publicaciones/cuadernos-y-monografias-de-aldeeu/

Sánchez-López, L., Long, M. K., & Lafford, B. A. (2017). New directions in LSP research in US higher education. In M. K. Long (Ed.), *Language for specific purposes: Trends in curriculum development* (pp. 13–34). Georgetown University Press.

Saville-Troike, M. (1984). What really matters in second language learning for academic achievement? *TESOL Quarterly, 18*(2), 199–219. https://doi.org/10.2307/3586690

Schultz, K. (2010). *Being wrong: Adventures in the margin of error*. Harper Collins.

Shute, V. J., & Zapata-Rivera, D. (2012). Adaptive educational systems. In P. J. Durlack & A. M. Lesgold (Eds.), *Adaptive technologies for training and education* (pp. 7–27). Cambridge University Press.

Silver, N. (2012). *The signal and the noise: Why so many predictions fail–but some don't.* University Press.

Slavuj, V., Meštrović, A., & Kovačić, B. (2017). Adaptivity in educational systems for language learning: A review. *Computer Assisted Language Learning, 30*(1–2), 64–90. https://doi.org/10.1080/09588221.2016.1242502

Stein-Smith, K. (2016). *The US foreign language deficit: Strategies for maintaining a competitive edge in a globalized world*. Palgrave Macmillan.

Stein-Smith, K. (2018). Foreign language skills as the ultimate 21st century global competency: Empowerment is a globalized world. *International Journal of Research Studies in Language Learning, 7*(3), 71–86. https://doi.org/10.5861/ijrsll.2017.1856

University of Central Florida. (2020a). *Center for Distributed Learning: PAL design and development services*. https://cdl.ucf.edu/services/instructional/personalized-learning/

University of Central Florida. (2020b). *Experiential Learning: Support for faculty and colleges*. https://explearning.ucf.edu/faculty/support-for-faculty-and-colleges/

University of Central Florida. (2020c). *Spanish*. https://mll.cah.ucf.edu/languages/spanish/

Vandewaetere, M., Desmet, P., & Clarebout, G. (2011). The contribution of learner characteristics in the development of computer-based adaptive learning environments. *Computers in Human Behaviour, 27*, 118–130. https://doi.org/10.1016/jchb.2010.07.013

Wang, J., Liang, S. I., & Ge, G. (2008). Establishment of a medical academic word list. *English for Specific Purposes, 27*, 442–458. https://doi.org/10.1016/j.esp.2008.05.003

Winke, P., Gass, S. M., & Heidrich, E. S. (2019). Modern-day foreign language majors: Their goals, attainment, and fit within a twenty-first century curriculum. In P. Winke & S. M. Gass (Eds.), *Foreign language proficiency in higher education* (vol. 37; pp. 93–113). Springer.

World Health Organization. (2009). *WHO guidelines on hand hygiene in health care: First global patient safety challenge clean care is safer care*. National Center for Biotechnology Information. https://www.ncbi.nlm.nih.gov/books/NBK144039/

## Appendix A. English Translation of the Essential Phrases in Spanish to Select COVID-19 Masks

In Spain if you are look for an COVID-19 mask you have to know the words used when you are selecting the mask. If you do not, you could have communication problems with the salesperson or the pharmacist. I suggest that you follow the suggestions of the Health Department of Spain to prevent communication problems.

What mask do I need?

https://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov/documentos/030520_GUIA_COMPRA_MASCARILLAS.pdf

You will find the options available and decide on the mask that is most appropriate in each case. Check the options and be prepared for a trip abroad to a Spanish-speaking country. Next you will find a dialogue between a client purchasing a mask and a salesperson.