Integrating Language, Content, Technology, and Skills Development through Project-based Language Learning: Blending Frameworks for Successful Unit Planning[1]

Tammy Slater[2] & Gulbahar Beckett[3], Iowa State University, Ames, Iowa, USA

Abstract

In this article, the authors first summarize the literature on project-based language learning (PBLL), a sound approach to second language teaching, addressing its various benefits such as providing opportunities to develop language authentically in real-world contexts, building decision-making and problem-solving skills, and developing content knowledge. In acknowledging reports that have also suggested that students can struggle to see how language is being developed through PBLL, the authors then argue that by looking at a project as a social practice, educators can demonstrate how language, content, and 21st century skills can be taught as an integrated whole through PBLL. They describe two existing frameworks, Mohan's (1986) knowledge framework and Beckett and Slater's (2005) Project Framework and illustrate how these can be combined to create unit plans that explicitly integrate language, content, skills, and technology. To illustrate the blending of the two frameworks, the authors present a unit plan that targets the content area of applying for American graduate schools. This unit plan offers eleven lessons that include teaching sequences, tasks, and learning objectives for the content, language, academic skills, and technological understandings that the unit comprises. The authors also detail how the combination of the frameworks led to the creation of the various lessons so that this process can be used as a model for creating future relevant unit plans.

Resumen

En este artículo, las autoras primero resumen la literatura sobre el aprendizaje de lenguas basado en proyectos (Project-Based Language Learning, PBLL, en su nombre y siglas en inglés), una metodología reconocida en el campo de la enseñanza de segunda lengua. Después, las autoras dan a conocer los variados beneficios que posee PBLL, como por ejemplo; proveer oportunidades de desarrollo para una segunda lengua en contextos auténticos, construir habilidades para tomar decisiones y resolver problemas, y desarrollar conocimiento y contenido. Al reconocer los informes que sugieren que los estudiantes pueden percibir que el PBLL no les ayuda a desarrollar la competencia lingüística, las autoras han argumentado la necesidad de ver un proyecto pedagógico de PBLL como una verdadera práctica social, de tal manera que los educadores puedan demostrar cómo se puede utilizar la metodología de PBLL para enseñar lenguas, contenido y las habilidades del siglo XXI de una manera integrada. Las autoras describen dos marcos teóricos existentes: el Marco de Conocimientos (the Knowledge Framework) de Mohan (1986) y el Marco de Proyectos (the Project Framework) de Beckett y Slater (2005), y así demuestran cómo éstos se pueden combinar para crear planes curriculares que integren explícitamente el lenguaje, el contenido, las habilidades y la tecnología. Para ejemplificar la integración de los dos marcos teóricos, las autoras presentan un plan curricular que se enfoca en cómo un estudiante puede postular a un programa de posgrado en universidades estadounidenses. Este plan curricular contiene once lecciones que incluyen las secuencias de enseñanza, las actividades, los objetivos de aprendizaje del contenido, el lenguaje, las habilidades académicas, y los conocimientos tecnológicos que el plan comprende. Las autoras también detallan cómo la combinación de marcos teóricos concluyó en la creación de variadas lecciones, para que este mismo proceso se pueda usar como modelo para la creación de futuros planes curriculares.

Introduction

Project-based language learning (PBLL) is a comprehensive, enriching pedagogical approach that can engage and empower students by developing academic skills such as planning, researching, analyzing, synthesizing, producing, and reflecting, all while developing language and content knowledge. Research on PBLL suggests that participating in projects can build decision-making skills and foster independence while enhancing cooperative work skills, challenge students' creativity, and improve problem-solving skills (Beckett & Slater, 2018a). Used in second language teaching, PBLL's student-centered approach offers learners opportunities to learn and produce language authentically in real-world contexts, work collaboratively, and focus on what they are interested in and needing to learn (Alan & Stoller, 2005; Habók & Nagy, 2016). Participating in PBLL can also provide natural contexts for the learning of

[1] Received: 12 September, 2018. Accepted: 5 November, 2018.

[2] tslater@iastate.edu

[3] beckett@iastate.edu

This is an open-access article distributed under the terms of a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

appropriate technology for authentic purposes. PBLL is a sound pedagogy through which learners can use language as a medium to learn language form, content, and sociocultural knowledge. This article combines two frameworks for PBLL to detail a project that develops language through the content topic of applying for American graduate schools; this project is presented in the Appendix for readers to use.

PBLL is based on John Dewey's experiential learning philosophy as well as multiple frameworks that are reflected in social constructivist learning theories that consider knowledge construction as social practice (Vygotsky, 1978). Following this view and working within a systemic functional linguistic perspective, Mohan (1986) adopted the concept of a *social practice* or *activity* as his unit of analysis and explained how content, language, and key visuals are integrated through participation in social practices. Mohan provided a *knowledge framework* for an activity (described below), showing how this could serve as a heuristic for unit planning within PBLL and other teaching contexts.

Despite research findings showing that students enjoy doing projects and learn a great deal of language, many reports have suggested that students have difficulty seeing how language is being developed through this approach (e.g., Beckett, 1999; Tang, 2012). Consequently, Beckett and Slater (2005) advocated for a framework to conceptualize how projects can develop language. They built on Mohan's work to create *The Project Framework*, which included a classification visual and a project diary that could help students understand how participation in this type of social practice could help them learn content and language while honing their academic skills. Here we blend Beckett and Slater's *Project Framework* with Mohan's knowledge framework to describe a PBLL unit teachers can use as is or as a model for future units.

Our unit provides a detailed example to argue that looking at PBLL as a social practice, as conceptualized from Dewey and Mohan, can be instrumental in planning a variety of project-based language teaching units that can provide transparency for the development of language, content, thinking skills, and technology. Our PBLL plan engages students in language development and content learning while examining the use of various technological affordances. We have highlighted the learning and use of technology not only in response to Finch and Daegu (2012), who called for the infusion of technology into PBLL, but also for a variety of other reasons. First, there is a considerable amount of research showing that the inclusion of technology in projects is motivating for students (see, for example, Beckett & Slater, 2018b) and results in higher achievement (e.g., Darling-Hammond, Zielezinski, & Goldman, 2014). Second, students have reported that they believe the inclusion of technology in project-based curricula to be useful and relevant to their future education and careers (e.g., Mosier, Bradley-Levine, & Perkins, 2016). Third, the use of technology within a PBLL approach has been seen to improve students' disciplinary literacy (e.g., Hafner, 2014). Fourth, just as there have been reports of students not clearly seeing the value of projects for language learning, as mentioned above, there have been similar findings concerning the use of technology in these classes (e.g., Terrazas-Arellanes, Knox, & Walden, 2015). Thus, our unit plan suggests technology that can explicitly facilitate the learning of content and technology while developing the language needed for the various tasks.

Below, we provide a description of both Mohan's knowledge framework and Beckett and Slater's (2005) Project Framework and blend them to show how teachers can ensure their students learn language and understand how project participation aids this process. These descriptions will be followed by our suggestions for lessons that explicitly reflect these frameworks. Because the topics in the PBLL approach must relate to students' real-world motivation, needs, and goals as suggested above, the topic we have chosen to detail here aims to address a very cultural practice that may be of interest and importance to many students in EFL contexts, using English and technology to apply to American graduate schools.

Mohan's knowledge framework

A knowledge framework (KF), is a heuristic of a social practice or activity, a chart that can help teachers organize their unit's lessons, tasks, and content to ensure they address not only content learning objectives but also language goals. Mohan described an activity as "a combination of action and theoretical understanding" (Mohan, 1986, p. 42), thus emphasizing the concepts of doing (action) and knowing (theoretical understanding). In educational practice, we acknowledge this as a connection between the tasks students undertake and the content and linguistic knowledge they need to complete these tasks. Mohan's simple heuristic of a knowledge framework with its six boxes is expanded in Table 1 to list the knowledge structures and the thinking skills, key visuals, and characteristic language associated with them.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

Knowledge structure	Thinking skills	Key visuals	Language
Classification	Classify Group Sort Define Part/whole	Tree Web Table	General reference Relational verbs (e.g., *be, have*) Additive conjunction (e.g., *and*) Taxonomic, part/whole lexis (e.g., nouns: *types, classes, kinds, categories, ways;* verbs: *classify, sort, group, organize, categorize, divide, comprise*) Passives (e.g., *are classified, are grouped*)
Principles	Explain Predict Draw conclusions Apply rules, causes, effects, means, ends, Formulate, test, and establish hypotheses Interpret data	Cycles Line graphs Cause/effect chains	General reference Action verbs Consequential conjunction and adverbials (e.g., *since, due to, in order to, consequently, because, thus, if*-clauses) Cause-effect lexis (e.g., nouns: *cause, effect, result;* verbs: *cause produce, bring about*) Passives + agency (e.g., *is cause by, are produced by*)
Evaluation	Evaluate Rank Judge Criticize	Grid Rating Chart	General reference Thinking verbs (e.g., *believe, think, value, consider, rank, judge*) Comparative conjunction (e.g., *likewise, however, while*) Evaluative lexis (e.g., nouns: *best, worst;* adjectives: *good, bad, right, wrong, boring, acceptable;* verbs: *rank, approve, value, like*)
Description	Identify Label Describe Compare Contrast Locate	Picture Map Diagram Drawing Venn Pie Chart	General or specific reference Relational verbs (e.g., *be, have*) Existential verbs (e.g., *there is/are*) Additive conjunction (e.g., *and*) Attributive lexis (e.g., adjectives of color and size) Language of comparison and contrast (e.g., *the same as, similar to, different from*)
Sequence	Arrange events in order Note changes over time Processes Follow directions	Time line Action strip Flowchart	Specific reference Action verbs Temporal conjunction and adverbials (e.g., *after, since, as, initially, firstly, finally, when*-clauses, *as*-clauses) Sequential lexis (e.g., nouns: *beginning, end;* verbs: *start, conclude. continue, summarize*)
Choice	Select Make decisions Propose alternatives Solve problems Form opinions	Decision tree	Specific reference Sensing verbs (e.g., *like, want*) Alternative conjunction (e.g., *or*) Appositional choice lexis (e.g., nouns: *choice, option, which* + noun; verbs: *choose, opt, select, prefer*)

Table 1: The knowledge structures, thinking skills, key visuals, and language of Mohan's knowledge framework (based on Early, 1990, and Mohan, 1986)

As shown in the column on the left, the KF consists of six of what Mohan calls knowledge structures (KSs). Each of these KSs has thinking skills and language associated with it, and each has common key visuals or graphic organizers that show the structure multimodally. ***Classification***, for example, involves classifying, defining, and examining part-whole relationships and can be visualized using tree diagrams, webs, and tables. Linguistically, it involves verbs such as *be* and *have* and lexis such as *type, sort, divide, comprise, classify,* and *group.* ***Description*** is similar in its verb use but makes wide use of adjectives and other attributive words as well as comparative words, and can utilize visuals such as pictures, Venn diagrams, and pie charts. The KS of ***Sequence*** involves the ordering of events or things and can be visualized through a timeline, list, or comic strip. The language associated with this KS includes most notably adverbs such as *first, then, after, before,* and *finally,* but sequence also involves many action verbs such as *send, go, prepare, write,* and *read* as well as verbs that explicitly show a sequence, such as *start, finish,* and *continue*. Examples of nouns that clearly denote a sequence are *beginning, end, summary,* and *conclusion*. Certain adverbial clauses also fit this KS, such as *when*-clauses or phrases that state when and even where something occurs (e.g., in summer, on the Internet). The thinking skills that make up one of

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

the most important KSs for graduate school, ***Principles***, have to do in part with explaining, testing and hypothesizing, and establishing causes, effects, means, and ends. Its visual options are often cause/effect chains and problem/solution graphics. The lexis that builds the thinking skills of this KS are terms such as *cause, effect, result, produce, consequently, due to,* and *if*-clauses. Finally, ***Choice*** and ***Evaluation*** concern decision-making and evaluating. The former uses lexis such as *opt, choice, select, prefer,* and the question word *which*, whereas the latter suggests more evaluative words such as *rank, approve, value, best, boring,* and even the ubiquitous *like*.

These KSs occur across a wide variety of topics and activities and can therefore be considered cross-curricular. The language that is used to construct each KS, regardless of the content area, is similar and uses much of the same key vocabulary and grammar. This offers teachers and their students a valuable toolbox for learning and using the language of these KSs across any content area. To offer a concrete example, regardless of whether an instructor is teaching students the timeline for submitting application documents or how to bake cookies (dramatically different content areas), each lesson would naturally encourages students to use the language of sequence alongside vocabulary relevant to the content (e.g., *application, CV, letters of recommendation* vs. *chocolate chips, flour, sugar*). It may thus be in the best interest of the instructor to exploit this connection to teach new and perhaps more academic language that constructs each KS, rather than leaving their students to use only what they already know, focusing only on vocabulary or random grammar exercises, or simply leaving the language-learning process up to incidental acquisition and adding to students' confusion about how the project assists them in their language development.

The Project Framework Applied

Beckett and Slater (2005) advocated for the creation of a framework that would help students envision a new way to look at language learning and provide an explicit way to illustrate how engaging in project work on any topic allows for the simultaneous development of language, content, and skills. The Project Framework has two components: the planning graphic and the project diary. In Table 2 below, we cite Beckett and Slater's (2017) revised planning graphic as it has been applied to the graduate school application unit. This graphic includes the development of technology knowledge (note that instructors can teach other tools beyond what is suggested). The Framework allows for brainstorming and planning the types of knowledge the instructor wishes to focus on, use, or teach during the unit, and should be considered the first step in creating the unit plan once the overall content area has been determined.

CONTENT	LANGUAGE	SKILLS	TECHNOLOGY
Finding appropriate graduate programs Creating a CV Writing a Statement of Purpose Requesting reference letters Reviewing content of applications Discovering the time line of applications	Definitions of relevant terms CV Power words Sequencing language Classification language Providing reasons/justifying Requesting Means/end language	Searching the Internet Writing Using a thesaurus Skimming and scanning Synthesizing information Paraphrasing Editing/proofreading Revising Interviewing Transcribing Listening Note-taking Collaborating Outlining Grouping Creating bibliographies Choosing and Evaluating	World Wide Web Grammarly Google Docs (share) Class management system Word Processing Dragon Dictation Desktop layout Digital voice recorders Endnote Cartoon creators

Table 2: Revised Project Framework (Beckett & Slater, 2017)

Once the knowledge and content goals have been categorized as above, the next step is to consider questions that can be asked around the content itself. These questions should reflect the information the teacher would like students to learn. In our unit, for example, questions that may be asked are what kinds

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

of US graduate programs are available and appropriate for these students? What past accomplishments compel students to apply for programs? What types of requirements do students need to meet to be accepted into a program? When are the deadlines and what needs to be submitted by these deadlines? These types of questions can be brainstormed with students when filling out the initial Project Framework, as in Table 2 above, or they can originate from the instructor. The important aspect is organizing these ideas prior to setting up the unit plan.

Blending the Two Frameworks

The brainstormed questions from above can be classified according to the language used to construct them, because the wording suggests specific knowledge structures, as we show in the knowledge framework in Table 3 below. Having the various questions in a KF format allows teachers to emphasize the focus on language, as each knowledge structure has language that constructs it, as stated earlier.

CLASSIFICATION	PRINCIPLES	EVALUATION
• What are the various types of programs? • What kinds of higher education exist? • What types of materials do you need to prepare? • What elements of a program are important to you? • What kinds of questions are on typical application forms? • What do specific terms mean (e.g., *statement of purpose*)?	• What are your reasons for wanting to study at a particular university? • What preparation leads you to graduate studies in your chosen field?	• Can you rank and justify your interests in terms of what is most/least important in a graduate program? • Can you justify your interests in working with specific faculty? • Can you rank and justify your choices of a graduate program?
• How might you describe yourself academically and professionally? • What are faculty's areas of interest at the programs you are interested in? • What does your ideal university program look like?	• What is the time line for ensuring your application is submitted? • What have you done professionally? • What have you done academically?	• What elements of a program are important to you? • Which programs are you considering?
DESCRIPTION	**SEQUENCE**	**CHOICE**

Table 3: A knowledge framework of questions for graduate school applications

Taken together, the Project Framework and the knowledge framework as we have described above provide guidance in creating the unit with its individual lessons and tasks, in that the target knowledge in the Project Framework (content, language, skills, and technology) can be combined with the knowledge-structure questions from the KF, allowing for explicit connections to be made between language and content. Appropriate technology tools such as the ones suggested in Table 2 above can be adopted to help students find the content information they need as well as read, construct, and practice language with those tools, and the skill development that is targeted can inform the type of work (reading, group work, information gap tasks, etc.) that teachers incorporate into the lessons.

The outcome of the project is a successful application to a graduate school in the United States, and this requires several subtasks including creating a CV, choosing the best institution(s) to apply to, writing a statement of purpose, and requesting reference letters, as noted in the content column of Table 2. Each lesson in some way must lead to the successful completion of these tasks, but because the students are in a language-learning environment that also teaches technology, each lesson must also explicitly show how it focuses on language and skill development (academic, personal, and technological). The unit plan thus blends the columns from the Project Framework with the integrated language and content knowledge structures of the KF.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

An illustration of practice: The organization of our unit

Based on the combination of Mohan's KF and Beckett and Slater's Project Framework, what follows are suggestions for eleven lesson plans, in recommended order, although the unit (as shown in Appendix A) may be expanded.

1. Establishing the sequence for applying
2. Determining needs and wants
3. Identifying important elements of a CV
4. CV: Telling a life story
5. Creating a CV: From your life story to a CV
6. Finishing up the CV: Publication records
7. Examining program characteristics of your top choices
8. What programs offer
9. Describing yourself academically and professionally
10. Writing your statement of purpose
11. Requesting letters of recommendation

Each detailed plan in Appendix A states learning outcomes and includes potential tasks that aim to address them. Along with these suggested tasks, each plan identifies relevant technology and the linguistic knowledge structure(s) in focus (all KSs will occur naturally in all lessons, but each lesson should highlight the development of a limited number of KS language resources). Although the language level can be adjusted because all knowledge structures have various linguistic resources that can be used, our suggestions acknowledge that students applying for graduate schools already meet or are close to meeting basic TOEFL requirements. We believe also that these students would be interested in, and thus motivated by, this unit to hone their language ability while learning how to submit a successful application.

Assessment of the blended frameworks project

Assessment should be both formative and summative. The instructor can proofread the final product prior to students sending it out to universities, and through this determine an acceptable summative evaluation. Formatively, we recommend a "project diary" for students, as advocated in Beckett and Slater (2005), so that students themselves see the value of doing project work for learning. Instructors should also pay close attention to the learning outcomes of each lesson and keep notes on whether the students have met these.

Conclusion

This article has recommended the blending of two frameworks, Beckett and Slater's (2005) Project Framework and Mohan's (1986) knowledge framework, to illustrate how a project-based approach to language teaching and learning can be adopted to explicitly highlight the complex teaching and learning goals of language, content, skills, and technology use. The unit plan as suggested here is by no means inclusive of all ideas that an instructor could use to teach students about applying to American graduate school programs, but we believe it illustrates how the two frameworks can be blended to ensure that students are developing language, content, skills, and technological savvy as they work through the various lessons. This unit plan provides a model for future units as well, particularly those that revolve around teaching and learning academic content. Because the use of projects in language classrooms targets not only language acquisition but the learning of content and various other skills as we have concluded from our examination of the research literature, we argue that by explicitly blending the Project Framework with Mohan's knowledge framework, students and teachers together will see how this type of PBLL approach can be both educational and transformative.

References

Alan, B., & Stoller, F. L. (2005). Maximizing the benefits of project work in foreign language classrooms. *English Teaching Forum, 43*(4), 10-21.

Beckett, G.H. (1999). *Project-based instruction in a Canadian secondary school's ESL Classes: Goals and evaluations*. (Unpublished doctoral dissertation). University of British Columbia, Canada.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

Beckett, G.H., & Slater, T. (2005). The project framework: A tool for language, content, and skills integration. *ELT journal, 59*(2), 108-116. doi: https://doi.org/10.1093/eltj/cci023

Beckett, G.H., & Slater, T. (2017, March). *A synthesis of project-based language learning: Research-based teaching ideas.* Paper presented at TESOL2017, Seattle, Washington, USA.

Beckett, G. H., & Slater, T. (2018a). Project-based learning and technology. In J. I. Liontas (Ed.), *The TESOL encyclopedia of English language teaching* (pp. 1-7). Oxford, UK: Wiley Blackwell. doi: 10.1002/9781118784235

Beckett, G. H., & Slater, T. (2018b). Technology-integrated project-based language learning. In C. Chapelle (Ed.), *The encyclopedia of applied linguistics* (pp.1-8). Oxford, UK: Wiley-Blackwell. doi: 10.1002/9781405198431.wbeal1487

Darling-Hammond, L., Zielezinski, M. B., & Goldman, S. (2014). Using technology to support at-risk students' learning. Scope: Stanford Center for Opportunity Policy in Education.

Early, M. (1990). Enabling first and second language learners in the classroom. *Language Arts, 67*, 567-574.

Finch, E., & Daegu, G. (2012). Projects for special purposes: A progress report. *World Journal of English Language*, *2*(1), 2–13. doi: https://doi.org/10.5430.wjel.v2n1p2

Habók, A., & Nagy, J. (2016). In-service teachers' perceptions of project-based learning. *SpringerPlus, 5*(83). doi: 10.1186/s40064-016-1725-4

Hafner, C. A. (2014). Embedding digital literacies in English language teaching: Students' digital video projects as multimodal ensembles. *TESOL Quarterly, 48*(4), 655-685. doi: 10.1002/tesq.138

Mohan, B. A. (1986). *Language and content.* Reading, MA: Addison-Wesley.

Mosier, G. G., Bradley-Levine, J., & Perkins, T. (2016). Students' perceptions of project-based learning within the New Tech School model. *International Journal of Education Reform, 25*(1), 2-15.

Tang, X. (2012). *Language, discipline or task? A comparison study of the effectiveness of different methods for delivering content-based instructions to EFL students of business studies.* (Unpublished doctoral dissertation). Durham University, Durham, UK.

Terrazas-Arellanes, F. E., Knox, C., & Walden, E. (2015). Pilot study on the feasibility and indicator effects of collaborative online projects on science learning for English learners. *International Journal of Information and Communication Technology Education, 11*(4), 31-50. doi: 10.4018/JICTE.2015100103

Vygotsky, L. S. (1978). Interaction between learning and development (M. Lopez-Morillas, Trans.). In M. Cole, V. John-Steiner, S. Scribner, and E. Souberman (Eds.) *Mind in society: The development of higher psychological processes* (pp. 79-91). Cambridge, MA: Harvard University Press.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

Appendix A

The Detailed Unit Plan

1. Establish the sequence of applying—a timeline of what you need to do and when.
   Students will be able to (1) identify steps needed to apply for graduate school, (2) talk about the order in both simple and more complex ways, and (3) use a grammar checker to help them proofread.
   a. KS: Sequence (timeline)
   b. Technology: Internet search, grammar checker (e.g., Grammarly)
   c. Language: Moving beyond ordinal numbers to more sophisticated sequencing language; vocabulary relevant to lesson (e.g., *TOEFL, GRE, recommendation letters*)
   d. Skills: Scanning for information, synthesizing, summarizing
   e. Suggested tasks:
      i. Have students in small groups brainstorm for what needs to be done to study abroad (e.g., finish their current program, write appropriate tests such as GRE and TOEFL, choose program, fill out application, ask for recommendations, create CV).
      ii. Elicit ideas and work with students to put these into a logical order—make these visually accessible on a timeline.
      iii. Move from "first, then" to other ways of sequencing, e.g., "the process begins with…, the final step involves…" Talk about when numbering is preferred, and identify different ways of sequencing (e.g., numbering, sequencing adverbs, nouns, or verbs).
      iv. Have students summarize key aspects of the time line above, using a variety of the resources identified. Have them proofread and check grammar using a grammar checker such as Grammarly. Alternatively, students could create an instruction page that tells others what needs to be done to apply. Such instructions can be made more interesting by using technology such as WriteComics.com or toonytool.com.

2. Determining needs and wants. Students will be able to (1) classify ideas in both simple and more sophisticated language, (2) use Google Docs to upload, share, and edit documents.
   a. KS: Classification (tree)
   b. Technology: Internet search; Google Docs, MS Word Track Changes, grammar checker (e.g., Grammarly)
   c. Language: Identification of various classification language; vocabulary related to lesson (e.g., *assistantship, fellowship, scholarship*)
   d. Skills: Brainstorming, grouping, writing
   e. Suggested tasks:
      i. Have students work brainstorm factors that are important in deciding which school (e.g., weather, size of city or campus, demographics, reputation, cost of living, possible employment).
      ii. Elicit ideas from students and post them where all can see.
      iii. Work with students to group these by types (US location, city qualities, campus qualities, program qualities, etc.). Create a classification tree.
      iv. Introduce ways of talking about classifications. Move beyond, for example, the simpler "there are several things to consider" to "several notable ideas are important to me when deciding on a graduate school."
      v. Have students write a paragraph from the tree using a variety of classification language. Have student's grammar check (e.g., Grammarly) and upload to Google Docs to share for peer feedback.

3. Identifying important elements of a CV. Students will be able to (1) use the Internet to find suitable examples, (2) create a template for a CV, (3) rank evaluative language from strongest to subtlest.
   a. KS: Choice and evaluation
   b. Technology: Internet search; creating a CV template, Google Docs or MSWord Track Changes
   c. Language: Modal verbs and adjuncts from strong to weak (e.g., *There must be; maybe there should be; we might need to include; perhaps include; definitely need*); justification language (e.g., *because*); vocabulary relevant to lesson (e.g., *résumé, CV, experience, GPA, service, publications*)
   d. Skills: Brainstorming, searching and scanning the Internet for information, choosing and justifying choices
   e. Suggested tasks:
      i. Bring students' attention to an example of a nonstandard CV (e.g., one that includes a picture, states gender and age, family information) OR distribute a paper handout of one.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

ii. Have students look at the "wrong" CV, then discuss with a partner the elements and language they believe should or should not be on a US-bound CV.
iii. Elicit and "rank" the elements, to show strength of opinion (strong to weak language) and elicit justifications.
iv. Have students search the Internet for examples of CVs that would be appropriate. Have the students edit the "bad" CV to make it appropriate.
v. Have students create an MS Word document that has the headings for an appropriate CV for a university application. Have them include their basic information (name, contact information).
vi. Have students use MS Word Track Changes to share their documents to check their classmates' documents to ensure that appropriate elements are spelled correctly.

4. CV: Telling a life story. Students will be able to (1) listen and transcribe, (2) use a digital transcriber, (3) find power verbs to replace verbs in the text, and (4) identify elements of their pronunciation that may be problematic.
    a. KS: Sequence
    b. Technology: Using a transcribing app (e.g., Dragon Dictation, TranscribeMe, SpeakWrite), searching the Internet
    c. Language: Recounting experience, power verbs
    d. Skills: listening, digitally transcribing, note-taking to fill in blanks, revising
    e. Suggested tasks:
        i. Ask students the differences between a résumé and a CV; both tell a "life story."
        ii. Ask what a story's language characteristics are (e.g., past tense, action verbs, dates). Ask how a story can be visualized (e.g., time line, strip box). Ask what to listen for when listening to a life story (e.g., action verbs and dates).
        iii. Have students listen to a short, simple life story (appropriate information for a CV but simply written—see lesson 9 for where this is leading) and transcribe the text; have them create a time line from this.
        iv. Have students search for power verbs useful for CVs and resumes (e.g., https://www.themuse.com/advice/185-powerful-verbs-that-will-make-your-resume-awesome); have students edit the story to include the power words they find. Introduce them to an online thesaurus for similar practice.
        v. Using the time line from above, have students dictate into a digital recorder the new "life story" with power verbs. Have them check both their grammar (using, e.g., Grammarly) and their pronunciation, based on what the digital recorder "hears."

5. Creating a CV: From your life story to a CV. Students will be able to (1) learn how to identify issues with their pronunciation, (2) find and use power verbs, (3) create parallel structures, (4) identify differences between oral and written language.
    a. KS: Sequence
    b. Technology: Digital voice recorder, transcribing app (see above), MS Word
    c. Language: More power verbs and parallel structures (clauses/phrases); vocabulary relevant to lesson (e.g., *interview protocol*)
    d. Skills: Interviewing, summarizing, paraphrasing, proofreading and editing; document layout
    e. Possible tasks:
        i. Review the previous lesson and have students construct questions that elicit the information in the previous "life story." Appropriate headings from lesson 3 can also elicit similar information.
        ii. Pair students. Have them ask and record the questions to elicit appropriate information using a digital voice recorder. This should result in each student having a digital recording of his/her life story.
        iii. Have students listen to the recording and use the transcribing app to change the recording from sound to written text, which they should then proofread as before.
        iv. Elicit information to create the CV's experience section, using non-power verbs and non-parallel structures. Have students work in groups to make improvements. Stress the use of parallel structures and show options.
        v. Have students use lesson 3's CV template to develop their own, using parallel structures and power words.
        vi. Elicit and discuss the differences in language between the spoken life story and the academic written CV.
        vii. Have students upload their most recent CV drafts for feedback using Google Docs.

6. Finishing up the CV: Publication records. Students will be able to (1) create a reference list according to an appropriate citation format, (2) define terms related to reference lists, (3) be able to identify the differences between plagiarism and appropriate citation.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

a. KS: Classification, evaluation
b. Technology: Bibliographic app (e.g., Endnote, iSource, Mendeley, ReferenceMe)
c. Language: Reviewing classification language for types of sources; vocabulary relevant to lesson (e.g., *plagiarism, citation, bibliography, publications, refereed, conference presentations, proceedings; in press; in preparation*)
d. Skills: Referencing, building a bibliography
e. Suggested tasks
    i. Have students brainstorm ideas about what they think is acceptable or unacceptable usage of another person's words.
    ii. Elicit these and introduce the US concept of plagiarism.
    iii. Give examples of plagiarism and appropriate citations and have students classify them, stating reasons for their choices.
    iv. State that there are various formats for references and focus on the one that is most appropriate for your students. Go over the typical format of the most common entries.
    v. Have students correct a list of poorly presented references.
    vi. If students have published, have them put this work into correct formats and add to their CVs.

7. Finding and ranking university programs based on your priorities (from lesson 2). Students will be able to (1) offer choices and justifications using a variety of language, (2) create an effective PPT or Prezi, (3) present topics effectively.
    a. KS: Choosing and evaluating
    b. Technology: Searching the internet, Google Docs, MS Word
    c. Language: Choice language and reasons/justification for choices—when there are several options, students will need to use a variety of linguistic resources, so going beyond *like* or *really like* to *I have a strong preference for… My number one selection is…,* etc.)
    d. Skills: Searching the internet, skimming and scanning, note-taking, creating a PPT or Prezi, presenting results orally
    e. Suggested tasks:
        i. Have students return to the priorities from lesson 2. Ask them to search the Internet for programs that best match their priorities. Have them aim for eight to ten programs that match their needs and wants.
        ii. Elicit and review choice and justification language.
        iii. Have students prepare a presentation that summarizes their choices and justification (reasons).
        iv. Remind students to have a partner proofread and give feedback on their presentation slides.
        v. Have students identify characteristics of good oral presentations. Compile these into one checklist for students to use to evaluate each other's presentations.
        vi. Have students present their priorities with justifications. Have the audience evaluate them and ask questions and/or give feedback.

8. Examining program characteristics of your top ten choices: What the program offers. Students will be able to (1) create a one-sentence summary of a short text, (2) create a variety of connections between the one-sentence summaries and the students' own interests, (3) use presented ideas to improve a text.
    a. KS: Description; Choice and evaluation
    b. Technology: Searching the internet, MS Word (cutting and pasting), Grammarly
    c. Language: Describing program focus/someone's work, and comparing it to your own interests
    d. Skills: Summarizing, paraphrasing, charting comparisons, showing connections
    e. Suggested tasks:
        i. Have students use their rankings from lesson 8 to search university webpages for faculty that match their interests.
        ii. Have students summarize the work of chosen faculty. Share these on Google Docs and give/get feedback. Have students rewrite the texts as one-sentence summaries.
        iii. After students finish the one-sentence summaries, have them elaborate on how the information relates to them. For example, a student might say, *I envision the work of Dr. Smith on global warming to play an important role in moving my own work forward.* Work with students to create a variety of constructions that reflect the connections between their work and faculty's.
        iv. Show students an example of a "before" text (see examples from (https://www.cmu.edu/gcc/handouts-and-resources/grad-app-sop) and ask students to compare this to what they have been doing in this lesson. Have students use Google Docs to improve and share the text.
        v. Have students look at their ranked choices from lesson 8 to write a short description of at least one program they want to apply for as well as the connection between the work of that

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

program (including faculty) and their own aspirations (as in iii, above). Have them use a grammar and spell checker and have others offer feedback.

9. Describing yourself academically and professionally: What have you accomplished? Students will be able to (1) combine sentences to create both coordinate and subordinate clauses in a complex sentence, (2) rewrite sentences that show sequence into ones that show cause, (3) talk about their experience and aims using power verbs.
    a. KS: Sequence/principles
    b. Technology: Word processor, Grammar checker (e.g., Grammarly), GoogleDocs, Online thesaurus
    c. Language: Embedding clauses to show sequence, cause/effect, means/end (e.g., changing *"I studied psychology as an undergraduate, but I took a few courses in linguistics and this made me interested in language teaching so I got a certificate in language teaching"* to *"Although I studied psychology as an undergraduate, my venture into linguistics made me reconsider my major and eventually led me to a certificate in language teaching."*)
    d. Skills: Reading, summarizing, synthesizing, writing, using a thesaurus
    e. Suggested tasks:
        i. Show clauses with single events relevant to CVs. Have students combine the clauses to create both coordinating and subordinate clauses—both showing sequence. Then use subordinate clauses to suggest means/end or cause/effect (as in the example above). Offer several examples to work on as a class, having students combine the clauses using appropriate subordinating words (e.g., *although, even though, consequently*) or changing finite verb clauses into non-finite subject nominal clauses (e.g., *"I worked for X and improved my Y"* to *"Working for X improved my Y."*).
        ii. Using students' personal time lines, have students write complex clauses about their own experience, using power words and the thesaurus to make the sentences interesting.
        iii. Have students join the complex clauses into a paragraph that summarizes their educational and work experience and emphasize that students should aim to show the connection between the two wherever possible.
        iv. Have students check their work using a grammar checker (e.g., Grammarly). Have them upload their paragraphs to Google Docs and give/get feedback from others.

10. Writing your statement of purpose. Students will be able to (1) identify the purpose of each part of a statement of purpose, (2) write a statement of purpose.
    a. KS: A blend—this is a genre rather than a specific KS
    b. Technology: MS Word, Track Changes, Google Docs
    c. Language: Practicing much of the language that was taught earlier in the lesson; explicitly connecting language to purpose, learning about "linguistic moves" of a statement of purpose; vocabulary relevant to topic as needed for group
    d. Skills: summarizing and paraphrasing, giving and incorporating feedback
    e. Suggested tasks:
        i. Have students brainstorm answers to the following questions. Post their answers to share with other students.
            1. How long should a statement or purpose be?
            2. What information should it include?
            3. Should it include explanations about problems in your background (if any)? Why or why not?
            4. Should it name specific faculty and their interests?
        ii. Use the suggested website from lesson 8 to reinforce the idea that past experiences inform future research. This is a key relation that should be evident in the statement of purpose.
        iii. Go through the before and after statement (see the website document as an example) to illustrate problems with wording.
        iv. Have students examine a poorly presented statement of purpose that has feedback with track changes. (See appendix for an example.)
            1. Identify the purpose of each "chunk."
            2. Respond to the questions in the track changes to improve the statement.
            3. Check the spelling and grammar.
            4. Share your work on Google Docs to get/give feedback.
        v. Have students use the examples as models for their own statement of purpose. Have them use their work from earlier lessons and share their work for feedback through Google Docs.

11. Asking for letters of recommendation. Students will be able to (1) identify appropriate and inappropriate requests, (2) list the items that should accompany requests, (3) draft an appropriate request letter
    a. KS: A blend—this is a genre rather than a specific KS

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

b. Technology: MS Word, Track Changes, Google Docs
c. Language: Practicing much of the language that was taught earlier in the lesson; explicitly connecting language to purpose, learning about "linguistic moves" of a reference letter; vocabulary relevant to topic (e.g., *referee*).
d. Skills: Requesting politely, constructing the request genre, summarizing and paraphrasing, giving feedback, incorporating feedback
e. Possible tasks:
    i. Have students brainstorm answers to the following questions. Post the answers to 1-3 so that they can be shared.
        1. Who would make a good referee for graduate school?
        2. What do you need to include in a request for a letter of recommendation?
        3. What documents need to be sent to a referee?
    ii. After reviewing student responses to the above, elicit students' ideas for the appropriate ordering of ideas in the letter and present them visually (white board, document projector, Google Docs)
    iii. Show students an example of a "poor" model (see appendix) and ask them to work together to improve the letter.
    iv. Have students use their previous work, in a logical order, to create an appropriate letter, using the improved letter in iii as a model. Remind them to reword their earlier work because the request letter will include their statement of purpose and their CV.
    v. Have students check their work; have them post to Google Docs for feedback.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

Appendix B

Statement of purpose (for revision)

I want to apply for a university in usa. I am interest in science. It fascinate me in high school chemisty contest in Beijing. I was number 2 in contest. So, I study chemistry at your university. At my university, I study Chemistry, Principles of Chemical Engineering and had Lab too.

When I go to our univeristy, I want learn more knowledge in Chemical Engineering. It motivate me to study graduate program and explore advanced research. I think I can study there because I studied chemisty undergraduate in my country. I want to develop in direction of chemical engineering because it can important role in many areas. Therefore, I think studying chemical engeering can give me knowledge to help people and society. I want to work at hospitals and company.

BTW, I want your university because I like USA culture. My friend tell me your city has lot of culture, music, movies, good people. I think that is good for me. I like music and movie. So, I want study at your university.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license

Appendix C
Letter of request (for revision)

Dear Sir:

I hope you remember me. I took your engineering class in 2016. I want to apply for graduate school now and I ask you to please write a letter of recommendation for me and send it to CIT as soon as possible.

Thanks.

This is an open-access article distributed under the terms of a
Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license