FAILING FORWARD: EDUCATIVE CURRICULUM MATERIALS, AN ENGLISH TEACHING APP, AND A REVOLUTION

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Educative Curriculum Materials (ECMs) are teaching materials that have the dual function of providing learning activities to students and providing professional development to the teachers that use them. Answering a call for professional development opportunities, and with input from English teachers in rural Nicaraguan schools, the designers created a set of ECMs aligned with the Nicaraguan Ministry of Education Curriculum. When physically bringing the completed materials to educators in rural Nicaraguan schools became impossible, it was determined that the delivery system had to change. With support from a team of undergraduate computer science students, the ECMs were transferred to a digital delivery system, the new format allowing for even more English teaching and learning support. This paper shares how a revolution in Nicaragua and failed project ultimately led to the creation of the English teaching app Reaching for English.

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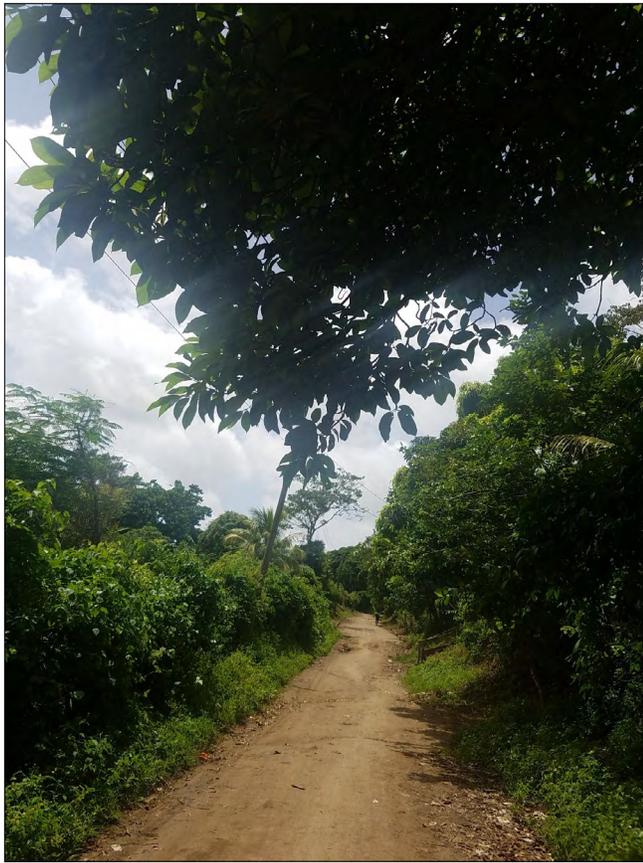
INTRODUCTION

We were walking through lush green on the dusty road that travels through the tiny hamlet in rural Nicaragua, having just finished talking with Lisseth, the village English teacher, about her experiences with English teaching materials we had developed. Two of us (Janine and Gina) were teacher educators based at US universities who prepared pre-service teachers to instruct those learning English as an additional language. Stan was a graduate student in Teaching English to Speakers of Other Languages whose thesis focused on curriculum development for a rural Nicaraguan school. Although this was Stan's first visit to Nicaragua, Janine had made two previous trips to collaborate with rural English teachers, and Gina had made 16. That day in July 2017 the air felt heavy with humidity and paused, as if ready for something to happen. In the next few minutes as we chatted in the heat, a key design insight would occur to us for our project on creating teaching materials that doubled as providers of professional development. It would be the second time in two years that traveling this stretch of road while reflecting on what we were seeing and hearing in the rural Nicaraguan context led to the reshaping of our project and to our understanding of the types of artifacts that could support English teachers there. This second time, however, it would take a revolution before we would truly consider making the change.

PROJECT CONTEXT

Our Educative Curriculum Materials project originated with Gina's wondering about the repeated requests she heard

FIGURE 1. The road to a rural Nicaraguan school in July 2017 (Used with permission from Stan Pichinevskiy).

from rural English teachers for, first, instructional materials for their classrooms and second, professional development opportunities. She wondered what types of materials and topics for development might be the most beneficial for English teachers in rural Nicaraguan schools. Until that point in time, she had responded in a piecemeal way on her repeated visits to Nicaragua, bringing teacher texts to share, providing impromptu workshops, and offering her email address for distance mentoring. None of it appeared to be impactful. The teachers' requests deserved a thoughtful, deliberate approach because, of all the settings in which students learn English around the globe, Nicaragua's schools have some of the biggest obstacles.

In the second-poorest country in Latin America, Nicaragua's schools are among the lowest-performing (Guzmán et al., 2013). Students are unlikely to complete many years of formal schooling—less than 45% continue on past 6th grade (Vaillant and Rossel, 2006), which led the president to declare "a 'battle for sixth grade'—the equivalent of trench warfare in a country that has one of the highest dropout rates and lowest high school enrollments in the world" (Rogers, 2012). Only 33% of Nicaraguan students graduate from high school (Bussi, Busso, & Munoz, 2015). End-of-year achievement tests that must be passed to continue on to the next grade

and interrupted schooling due to poverty contribute to the low graduation rate (Partnership for the Revitalization of Education in the Americas, 2007).

Teachers in Nicaragua enter this challenging context unprepared. Twenty percent are hired with less than the minimum requirements for teacher preparation (Partnership for the Revitalization of Education in the Americas, 2007). Even those who have received pre-service teacher training are unlikely to be ready for large class sizes such as 70—which is the reality, and those hired to teach English rarely have a minimum English proficiency (Cerezal, 2000; Coelho and Henze, 2014). Once hired, in-service teachers seldom receive professional development (Muhr, 2013), and, when they do, theory and practice are so loosely linked that teachers are unable to incorporate the information into their own classrooms (Vaillant and Rossel, 2006). Low pay leads to high teacher turnover (Rogers, 2012), which interrupts teachers' institutional knowledge of the students and the community.

Notably, there are large discrepancies between urban and rural schools. The graduation rate in rural Nicaraguan schools hovers at 12% (Bussi, Busso, & Munoz, 2015). From the authors' own experiences, rural schools are generally without electricity and internet (although most village parks now have public internet access), and many have dirt floors or concrete floors slowly returning to dirt. Local poverty has a direct impact on educational quality. Some communities only have funds for schools to open on Saturdays, and most are without copies of the national textbook for students, leaving teachers to their own devices to find ways to instruct English. In one mountain village that Janine visited, the sole teaching material of the sixteen-year-old instructor was a cassette tape of 1980's music left by a visiting tourist which was used for listening comprehension and vocabulary development exercises. Most rural English teachers have very little proficiency in English and are even less likely than urban teachers to have access to continued professional development due to the cost and difficulty of travel to conference sites, university courses, and gatherings of other English teachers, along with lack of access to electricity, technology, and the internet. Yet, Luxon and Luxon (1995) discovered that those teachers lacking in English proficiency were often the most likely to incorporate interaction, a necessary catalyst for language development, in their classes. More recently, Coelho and Henze (2014) found in a rural community that those teachers with little more proficiency than their students could become effective by changing their teaching approach from that of "expert" to that of Freirean "co-explorer," discovering how English works alongside their students. These studies suggested rural Nicaraguan teachers could be effective when their pedagogy embraced context and when they approached teaching as learners themselves. What, then, did this imply for potential teaching and professional development materials?

FIGURE 2. A classroom in a village school in rural Nicaragua in July 2017 (Used with permission from Stan Pichinevskiy).

EDUCATIVE CURRICULUM MATERIALS

Gina arranged to spend a week in July 2015 observing English classes at a high school in rural Nicaragua in order to discern productive directions for contributing classroom materials and professional development opportunities. In exchange for allowing her classes to be observed, English teacher Lisseth was promised several one-on-one work-shops to support her teaching. In addition to being schooled that week on the infinite number of ways that students could personalize a uniform with socks, Gina became aware of the lack of opportunities during English classes for students to interact in English in meaningful—rather than scripted—ways. She began to craft teaching materials that required students to interact, rather than just recite: infor-mation gap activities in which students needed to combine or share information in order to solve a problem or answer a question. With no access to the internet nor a photocopier, she hand-drew simple sets of images, labeling one "A" and the other "B," and added a prompt at the top of each such as, "Find the six differences between your classroom and your partner's classroom." In addition, she developed a set of

mini- workshops that explained second language acquisition theories as to why interaction (rather than simply listening to or reading English) led to language learning. After school, Gina provided the first workshop to teacher Lisseth.

As Gina introduced the first set of theories about how authentic student communication contributes to language development based on Long's (1981) interaction hypothesis and Pica and Doughty's (1985) negotiation of meaning, Lisseth politely listened, responding in quiet and hesitant ways. However, when Gina shared the teaching materials she had produced (picture information gap activities in which two partners were both supplied with an image that differed in some key ways from their partner's image) Lisseth came alive and insisted that they do all the activities together. As each looked at their image (the information) while avoiding showing it to the other (the gap), they took turns asking each other questions that led to the answer they sought together. Lisseth then exclaimed that she understood the difference between authentic communication and scripted interactions and, in her own words and using her own logic

she had extrapolated from the tasks, talked about why these activities would help students learn English.

The next day as Gina moved down that dusty road on her way to the high school, she reflected that Lisseth had participated in professional development by directly viewing and then using the physical learning materials themselves—not from the conceptual explanation of theories. What was needed, she surmised, was not the dual creation of learning materials and professional development tools but rather learning materials that were themselves a source of instructional improvement. What she had interpreted as two separate products she sought to create was, in fact, only one. Although this was a novel idea for Gina and Janine, it is, in fact, an established concept known as Educative Curriculum Materials (Ball & Cohen, 1996).
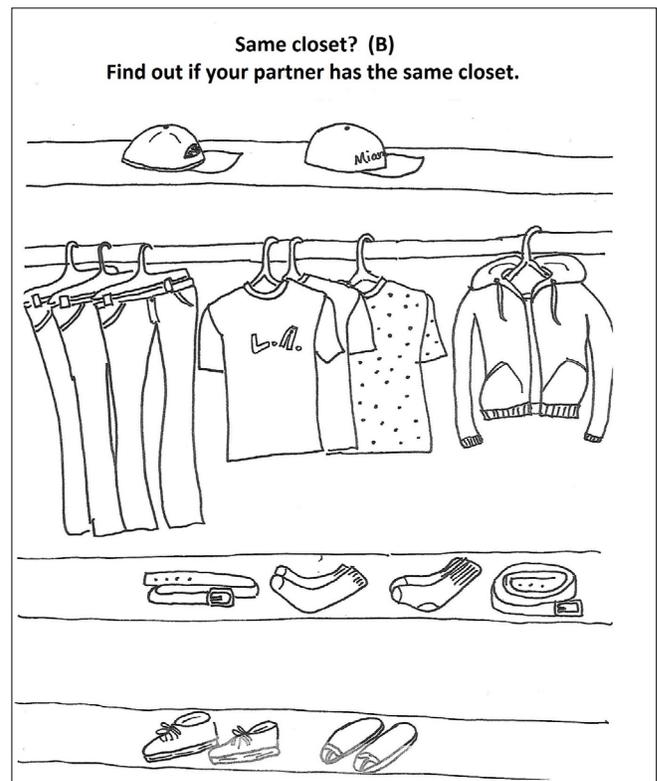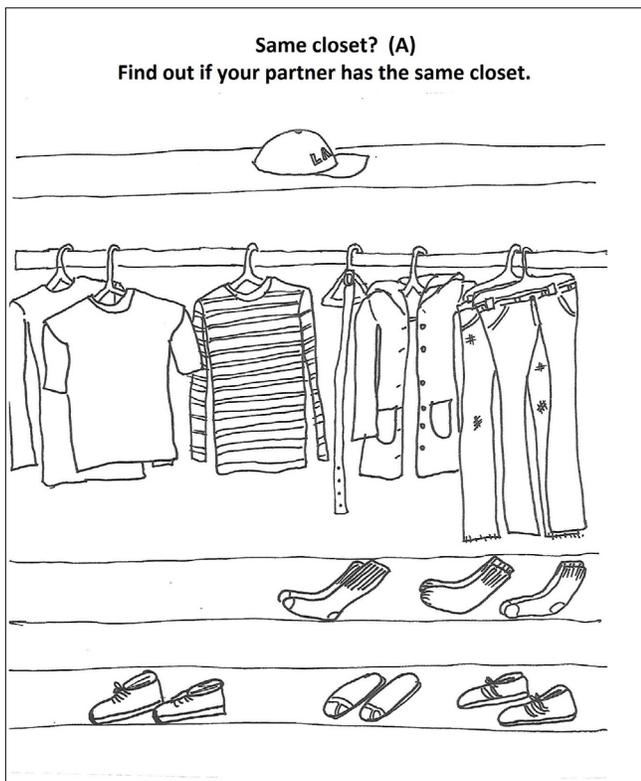
By providing learning materials through which teachers themselves can independently gain teacher training, learning opportunities in classrooms potentially immediately grow—both for students and for their instructor. While students get access to materials thoughtfully created to adhere to learning principles, teachers can develop their pedagogical design capacity, the ability to create, choose, and foresee student responses to learning activities (Davis & Krajcik, 2005). In addition, enticing for our project with rural teachers, those with the least amount of knowledge of teaching methods may gain the most development through ECMs (Hill & Charalambous, 2012). However, the outcome depends entirely on how well the Educative Curriculum Materials (ECMs) are designed to fit the specific users in their own classroom contexts because it is not the materials themselves that determine the learning; it is the teachers' interactions with the materials and student reactions while carrying out the activities that determines how much professional development is gained (Remillard, 2005).

The process for designing ECMs begins with gaining knowledge of who the users are. Following Remillard's (2005) process, these teacher characteristics are key to explore: knowledge of and confidence with content and effective methods for teaching it; pedagogical design capacity; beliefs and perceptions about one's identity as a teacher, the curriculum, the students; and, acceptance of feeling discomfort. Our iterative process began by opening a dialogue with three teachers in distinctly different rural Nicaraguan communities—including Lisseth—about their teaching, skills, and views. As reported in Petrie and Darragh (2018), we discovered that there was a large range of English proficiencies among the teachers. Some did not have enough English to give directions for activities in English. None were confident in their ability to design or choose learning activities, and all of their teaching strategies revolved around traditional repetition and recitation—both those who had been formally prepared to teach English as well as the teacher who had no previous preparation. They wished to

learn themselves through doing. They were concerned that their students did not have enough English to actually communicate in class and yet desired that their students do so if possible. They were very open to the idea of transitioning to language use in their classrooms from language practice but were unsure how to do so. According to Remillard's (2005) process, the salient characteristics of the teaching/learning context must be considered as well. In rural schools there was very little access to teaching materials including paper, pencils, white board markers, and chalk, and none of the schools had internet access. Teachers carried home their tools each day—including during the rainy season—as they did not have their own secured classrooms. In addition, materials needed to complement Nicaragua's Ministry of Education national textbook, and teachers had to feel comfortable using them without any help from outsiders, like us. Implications of teacher and context characteristics such as these then ideally inform ECM design elements including: the materials teachers are given to use directly with students, the use of words and/or graphics to express concepts; the appearance of the materials, the inclusion or representation of objects, the accompanying explanations and representations for teachers, and the type of author voice (e.g. friendly, authoritative, enthusiastic) used throughout (Remillard, 2005).

We designed the first set of ECMs as simple sets of information gap activities with "sticky" templates that we were hopeful the teachers would internalize and then apply in novel ways—-such as back-to-screen activities in which one partner would be able to see what was happening at the front of the room while the other could not (facing away from the "screen") and would be reliant on getting information in English from their partner. We created the materials largely using images to convey the idea of what students should do and included one or two simple sentences as a prompt for students and as a model for instructional language in English for teachers. Images, we conjectured, could reduce the linguistic challenge for teachers and students and could result in almost immediate understanding if they were communicated cleanly, thus making the ECMs accessible to any English level. Because the teachers' ideas of instructional materials were principally those that were commercially- created (to which they did not have access), they seemed to be intimidated to create their own.

To mediate this intimidation, we hand-drew the larger images (using free clip art pictures at times for smaller images) so as to model the power of non-professional looking teacher-constructed materials. We were careful to use simple line drawings whose meanings could be made out from the context if the image itself was not automatically understood. We also attempted to make the images as culturally familiar as possible. For some activities we included miniature plastic objects such as sets of foods or everyday grooming items that could foster interaction between students. Given that

Same closet? (A)
Find out if your partner has the same closet.

Same closet? (B)
Find out if your partner has the same closet.

FIGURE 3. An example of student materials for a pair information gap activities (Used with permission from Gina Petrie).

the teachers preferred to learn through doing rather than reading explanations, our first set of activities eliminated any explanatory text intended for the teachers to better understand the activities.

We laminated three sets of the resulting materials, and in early 2016 each teacher (Lisseth, Mary Joséph, and Maria Elena) received a durable water-resistant bag (generously donated from colleagues who were happy to get rid of one more conference tote) with the materials, dry erase markers (for multiple uses on the laminated sheets), scraps of soft cloth to be used as erasers, and the accompanying objects we had collected. The teachers were complimentary about the initial materials. They liked them; their students liked them, and it appeared that they were doing what we had hoped they would do. Teachers described other lessons they had created, inspired by the ECMs: all focusing on language use and interaction, demonstrating the impact on their pedagogical design capacity.

ECM creation is an iterative process, so when we returned in mid-2016 and then again in July 2017, we would ask about what was working, what was not, and what the teachers wished would be included. Back in the U.S., we would create additional and revise existing materials based on the teacher feedback and then take them with us on the next visit. One significant change we made was in response to the teachers' requests for help writing lesson plans and assistance predicting the vocabulary, grammar points, and functional

language that students would need for an activity as well as ideas for assessment. We developed a simple template for including a brief lesson plan with each activity, using simple tenses and sentences, bullet points and lists, color to show patterns, and headers to support teachers with reading them.

Stan inspired the group to use a visual at the top of each lesson plan so that even those teachers without strong reading proficiency in English would be able to discern the general directions for the activity.

AN ENGLISH TEACHING APP

During our final trip in July 2017, this time with all three of us (Janine, Gina, and Stan) going together to deliver the newest materials and to gather teacher feedback one last time before making multiple copies of the materials for a much larger teacher audience in Nicaragua, we asked again, "If you could have anything else to teach with, what else would you like to have?" This time the responses we received included a new request. "Listening activities using voices of people for whom English is their primary language," Lisseth responded. Maria Elena agreed with the suggestion, explaining, "My students don't have the opportunity to hear English spoken very much." Nothing about supporting listening comprehension had been mentioned up to that point in the project; it was a new direction, and one that we were not immediately convinced was related to or compatible with the current
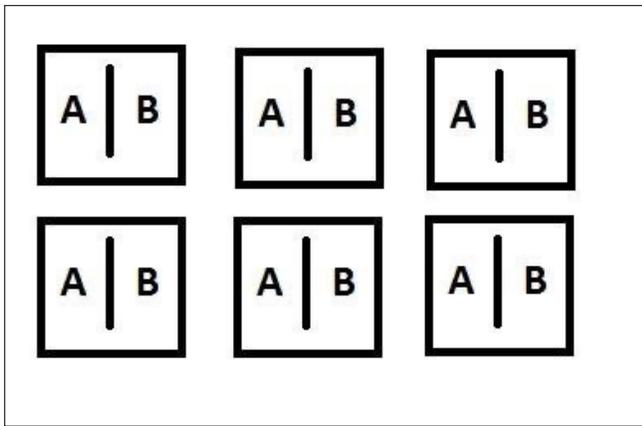
Objective	• Students will be able to talk about recreation activities.
	• Students will be able to talk about days and times.
	• Students will be able to talk about locations.
Functional Language *Students will need*	• Sentence starters: "Would you like to…?" and "We could…" and "Do you like to…?"
	• Let's go + VERB + ing. ("Let's go shopping.")
	• Let's play + NOUN. ("Let's play basketball.")
Vocabulary *Students will need*	• Vocabulary of making plans: *Saturday, Sunday, afternoon, evening, time, place, activity*
	• Vocabulary of recreation verbs that the students are likely to want to use (varies)
Grammar *Students will need*	• Noun clauses to give opinions: *I think that we should…*
	• Modals + verbs: *I would like to…* It would be…
Assessment *Teachers can check for success by*	• Walking around the room and listening to groups talk about their plans.
	• Having each group present their weekend plans to the class.
	• Having the class vote on the best weekend plans in the whole class.
Instructions	Before class, tell students to download the 9th grade Making Plans activity "Plan Our Weekend." To start the activity, have students bring up their empty calendar pages activity on their phones. Create groups with four people in each group. Tell the students that they have to plan their weekend together as a group—each of the four students has to agree to do the activities the group decides on. They should come up with four activities: for Saturday afternoon, Saturday evening, Sunday afternoon, and Sunday evening. Each group should talk and decide together how to plan their weekend. When all the groups have decided, have them share their plans with the class. The class can vote on the best weekend plans in the class.

TABLE 1. Example of lesson plan following template.

ECMs project. Perhaps later on we could create this second product to support the learning and teaching of listening in English. In addition, how could we add listening activities to our bag of ECMs? Lisseth said she had a boom box but was without batteries, outlets, and electricity. We promised we would consider the request. As we began walking on that dusty road through the rural Nicaraguan village, Janine and Gina chatted about the potential for placing listening exercises on CDs and providing equipment to dozens of teachers. The discussion was overshadowed by a previous experience. On her first trip, Janine and her university team had bought and uploaded content to Kindles that they then gave to the librarians at a rural Nicaraguan biblioteca. However, on her follow up visit, the Kindles were nowhere to be found. Janine and Gina knew that attempting to provide hardware options like MP3, CD, or DVD players or tablets were out of the question because they could easily be sold, lost, or stolen due to their value.

Stan, bemused by our talk, offered "How about an app? We would load listening activities that teachers could download on their phones when they have access to the free wifi in the public park. Then, they could bring the downloaded files with them to the classroom." "Maybe…," Janine and Gina contemplated, then promptly forgot about this seemingly-overwhelming suggestion. Janine and Gina consider themselves experts in low-technology/no technology teaching contexts, and the suggestion did not seem realistic without a background in such development. Why not stick with what we could do ourselves? And, this second project—creating listening opportunities—would be better to consider later, after we had completed our first.
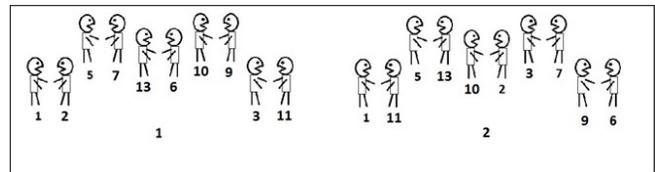
Nine months later in the US, Janine was preparing to distribute the final bags of ECMs to the original teachers as well as a larger group of rural teachers who would pilot the materials. Partnering with a professor of public health, Janine was embarking on the second collaboration trip taking

FIGURE 4. Visual Directions for an Information Gap Activity with partners A and B.

FIGURE 5. Visual Directions for students numbered off in sevens, continually changing partners (Used by permission from Gina Petrie).

students from both departments for a two-week study abroad (where public health students would work in health clinics, and education students would work in the schools). Janine was excited to deliver the ECMs to the teachers in the locations where they would be staying that May of 2018. Gina would be traveling to Nicaragua later that summer and would deliver the ECMs to teachers in additional areas. On April 18, 2018 (less than three weeks before Janine was set to depart) political unrest and violence erupted in-country as protests against a social security measure swelled in the capitol's streets, and clashes with police began. When a Level 4 travel advisory was issued, both Janine's and Gina's trips were canceled. In fact, all travel into Nicaragua was canceled for the foreseeable future due to what was now being called a revolution. We were in shock that after more than two years of work, we were going to fail to bring the project to completion by providing a teacher-informed context-sensitive form of professional development to the English teachers in rural Nicaraguan schools.

After a couple days of feeling defeated, we found that we were not yet ready to give up. Since we couldn't physically deliver the teaching materials, what we needed was another delivery system. Mailing the materials was not an option due to unreliable mail delivery. Then, suddenly, Stan's earlier suggestion to create an app for the listening exercises came to mind. It no longer appeared like a frivolous add-on or a separate project, but as an essential step to get all the materials to Nicaraguan teachers from a distance. For the second time in this design project, what had appeared to us as two products was, in fact, one. "What if we found a way to make the information gap activities work on students' phones….?" we wondered. A large percentage of students and teachers had smartphones. Village parks had free wifi. We conjectured that teachers could direct students to download only one form of the materials—so that students could authentically share information when working with a partner or small group in class. We imagined a teacher telling students the name of the activity to find on the app and then have
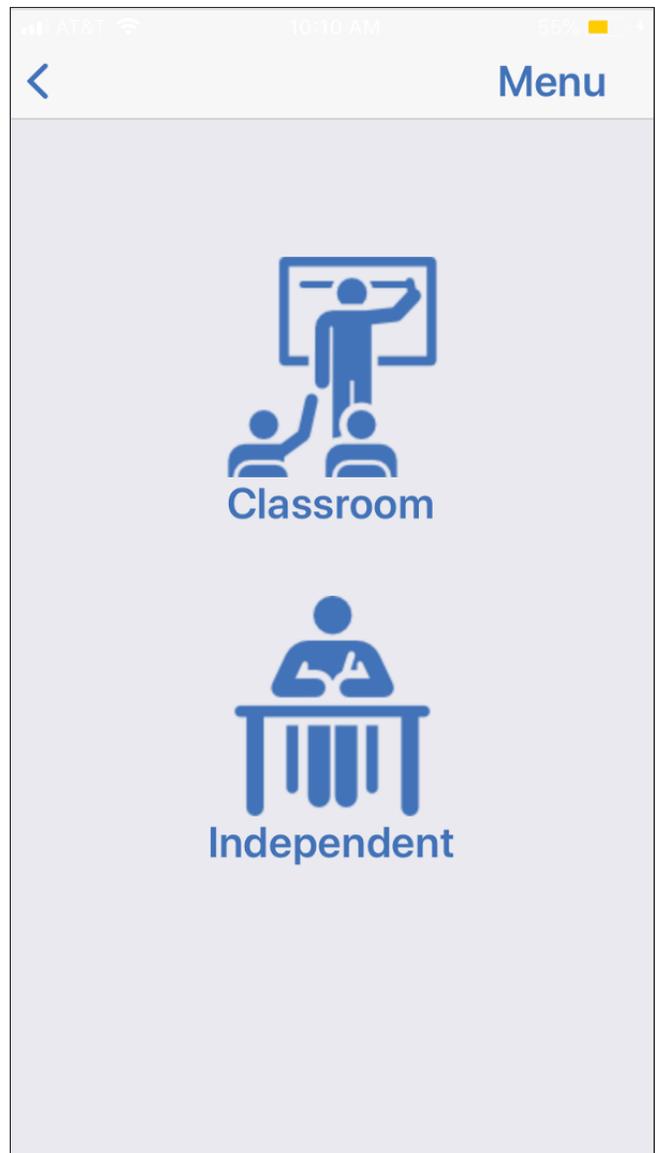
students "count off" so that one-half would arrive with the "A" form downloaded while the others arrived with the "B" form on their phones. Students could then refer to their phones while carrying out the task. "Could we….?" Stan assured us that a PDF viewer could be added to an app which could include not only audio content but the ECMs themselves. As it turned out, it did not matter that neither Janine nor Gina had skills or experience with developing an app because the computer science department at Gina's and Stan's university required teams of seniors to produce an app for a need in the community for their senior capstone project. Computer science student teams would listen to community pitches and choose which app they wanted to create. Stan gathered a description of what we desired the app to do, wrote a white paper, and submitted it to the competition, where it was chosen by a team of four computer science students: Jordan Lambert, Justin O'Neel, Jared Regan, and Daric Sage. The app was developed using React Native, which at the time had the novel capability to build one app for both platforms: Apple (iOS) and Android (OS). In addition, since we wanted to have the autonomy to upload and change content in the app, the student computer science team had to create a website from scratch on ASP.NET that would serve as the app's content manager.

Stan took the lead working directly with the student team so that they could begin building the app. React Native was new on the market and required a steep learning curve, but the computer science seniors were excited about the prospect to build one app that would work on both platforms and acquire marketable skills in the process. The initial challenge was to build an app that would allow the content to be managed without requiring a programmer's intervention. The student team broke into two groups: One worked on developing an app while the other started building a content management website. After the app and website structures were in place, adding additional features like an audio player/recorder, a PDF viewer, download, save, and delete functions was much easier to do. However, adding simple design (color, font, icon themes) to the user interface was a bit more challenging since the seniors primarily did back end programming. Later, all participants on this project became involved in providing input on the aesthetics of the app, which will be described later. Meanwhile, Janine and Gina worked frantically to get the materials ready for the student tech team before they needed them. For the

FIGURE 6. Our eventual designed logo for the English teaching app (used with permission from creators Bloom & Design, now known as Anthesis Company from Spokane, WA).

FIGURE 7. The start page on the Reaching for English app (used with permission from Janine Darragh, Gina Petrie, and Stan Pichinevskiy).

listening exercises, family members, neighbors, colleagues, and our students recorded the scripts we had created. In order to convert the listening activities into ECMs, we used the simple lesson plan template to create lessons that teachers could use before assigning and after students listened to the dialogues and monologues to enhance their understanding of which elements of English could be highlighted and how teachers could carry out assessment in the classroom related to the listening text. In addition, we provided a clear reason for listening to each text before the start of each dialogue/monologue to model the strategy of focusing on one element for comprehension as students listen. For the previously- created ECMs, we experimented with the images we had created for the activities on smartphones to discover which were large enough to be viewable and which needed

to be revised. We also increased the font on all text to make it readable on a phone.

We made decisions about the logo and its colors (We desired something pastoral and calming that was reminiscent of the Nicaraguan flag in some way and that gave an encouraging message) and about the name of the app (There were so many apps that had "teaching," "learning," and/or "English" in the title, but "reaching" had few search results and reinforced an implicitly encouraging message).

As our tech team worked on the app design, we did on-the-spot crash course lessons on cultural linguistics ("No. We can't use an apple icon to represent 'teacher,' because that's not an automatic connection people make around the

world"). We needed to avoid confusion as much as possible ("What free images can we use that might show this idea more clearly?") We knew that many teachers and students did not have regular access to the internet ("Can we have links to pdfs of all of the materials, so they can be downloaded and used later?") We wanted the teachers to feel like they could replicate or create similar materials ("Yes. We want to keep the hand-drawn images. We don't want the teachers to feel overwhelmed. No, we don't want videos, they take up too much data to download and often don't play with poor internet connections.")

We decided that from the start page, users would have the option to select whether they were using the app as a "Teacher" or as a "Student." The team chose images that they believed those in the Nicaraguan context (and likely beyond) would recognize as differentiating between the role of student and teacher. Entering as a student would then give access to the activity materials; entering as a teacher would also provide access to the lesson plan for each activity, something unneeded by students.

Next the user is directed to select whether they want materials for independent practice or for whole classroom use. If users choose "classroom," they gain access to the ECMs that we had originally created, as these are meant to take place during class time. If users choose "independent," they gain access to the listening exercises since teachers had envisioned the listening exercises as additional independent development outside of class time.

Users are then directed to a list of the 30 topics that are included in the Nicaraguan Ministry of Education English-language curriculum. We initially created one interactive and one listening comprehension activity for each topic. We opted to place the topics in alphabetical order on the app rather than in the chronological order they appear in the curriculum for the ease of users.

Once a topic is chosen, teachers are directed to the ECM which includes both the lesson plan and the activity materials.

Teachers and students can both select "independent" learning to access the listening comprehension activities. Students gain access to the MP3 audio recording and the script while teachers additionally have a lesson plan.

The MP3 can be slowed down or sped up to accommodate different levels of language acquisition. Furthermore, students can record themselves carrying out the dialogue/monologue or their own unique creative version of it. These features were not initiated by Janine nor Gina (who did not realize they were an option) but rather by the student team creating the app, who guessed they might be helpful for language learners.
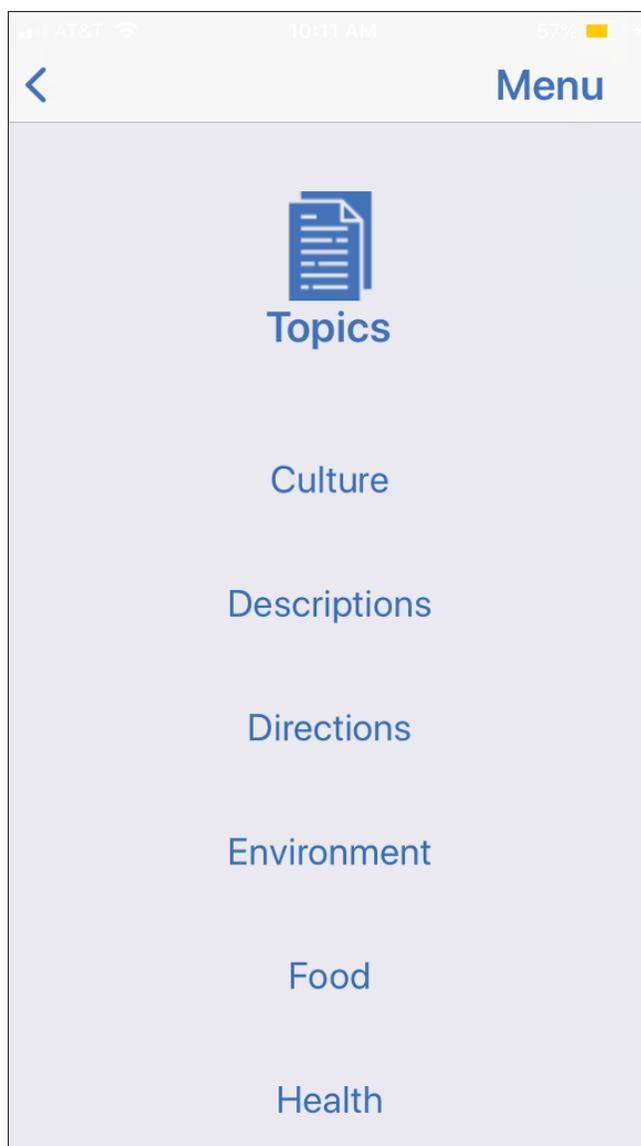
FIGURE 8. A screenshot from the Reaching for English app (Used with permission from Janine Darragh, Gina Petrie, and Stan Pichinevskiy).

Finally, we wanted a simple menu, with easy access to downloadable/printable PDFs of all of the ECMs. Although none of the teachers we were working with had access to printers, we could imagine that someone (with more connections to resources) might find it useful to access the PDFs. We also included a link to a survey to provide us with feedback regarding who was using the app and any changes they wished to suggest.

We officially launched the app, Reaching for English, at the 2019 International TESOL conference, where we were joined by a Nicaraguan English teacher, Alejandra Guzmán, who was also responsible for supporting hundreds of teachers with professional development through her work for the Access program and who was helping us to shape the
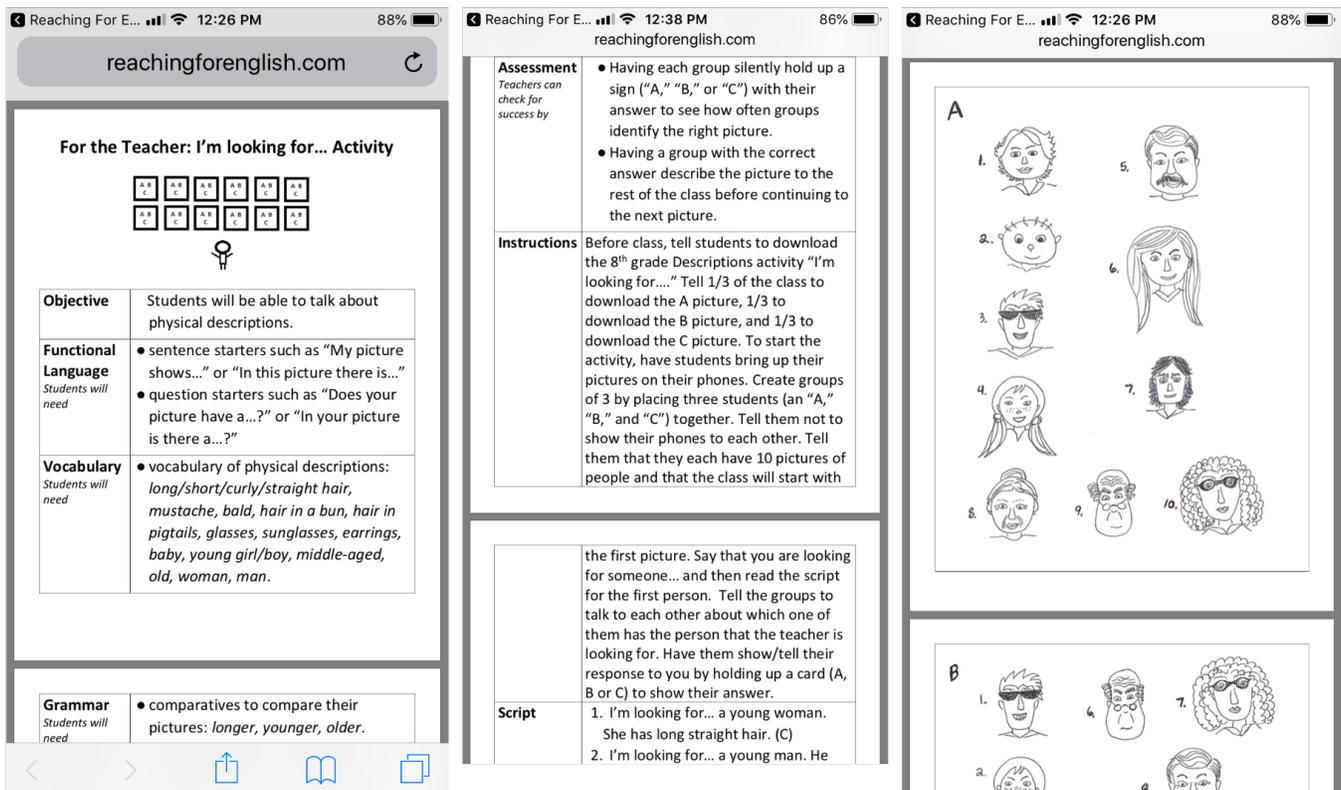
FIGURE 9. Example of the teacher view of a classroom ECM on Reaching for English (Used with permission from Janine Darragh, Gina Petrie, and Stan Pichinevskiy).
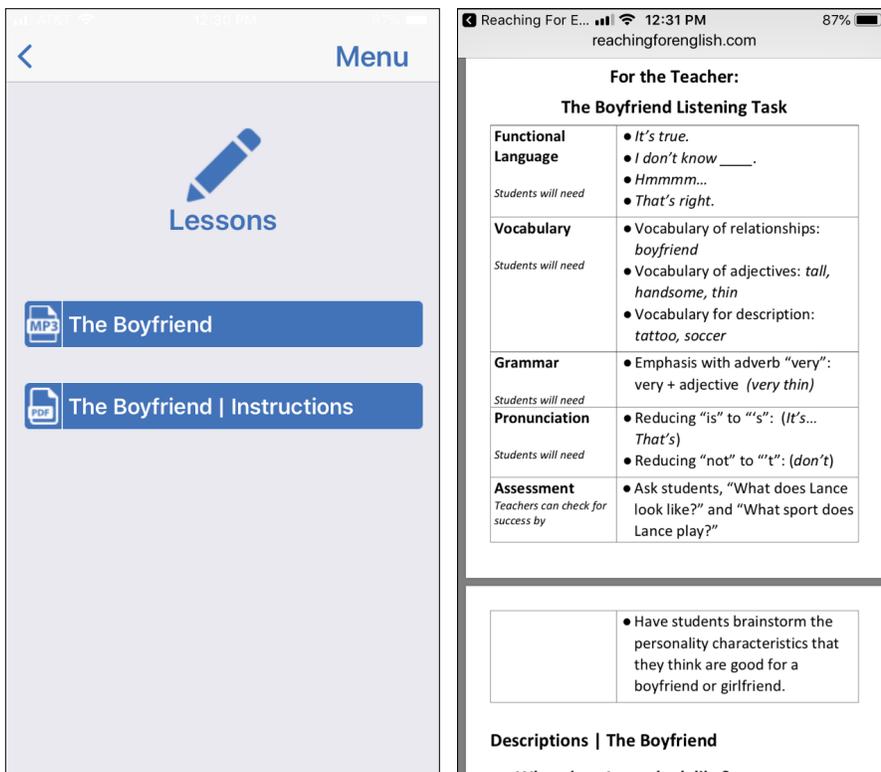

FIGURE 10. Screenshots of the teacher-view of a listening activity ECM on Reaching for English (Used with permission from Janine Darragh, Gina Petrie, and Stan Pichinevskiy).

app's content. Free on Google Play and Apple iTunes, we had found a way to get the ECMs not just to teachers in rural Nicaraguan schools, but, perhaps, to even a broader audience. The tech team would go on to earn an A on their senior capstone project, graduate, and secure jobs in tech fields, while one would stay on as a volunteer on the project- helping us and patiently answering every question and fixing every problem we "low tech/no tech" professors had with the app.

NEXT STEPS

Although we have had positive feedback regarding the app and have gained the interest of those in English teacher education through our publication on ECMs (Petrie & Darragh, 2018), we have also found that it can be cumbersome for teachers in remote areas who have limited data or still use flip phones. In addition, each time the app stores carry out updates, Reaching for English requires immediate maintenance to remain compatible, which requires us to rely on the assistance of those with computer science backgrounds. Furthermore, teachers have expressed an interest in being able to directly add their own ECMs to share with others, which the current app does not allow. For all of these reasons, our next step is to move the contents of the app to the Open Educational Resources (OER) Commons (https://www.oercommons.org/) and use tags that will allow teachers to search and access the materials based on topics,

levels, activity type, etc. As we work on this transfer, the app remains available through Google Play, though we did remove it from Apple iTunes due to the annual fee and the fact that all but two of the app's active users are accessing it through Google Play.

As we work on the transfer of delivery systems, we will once again be recognizing that what we had interpreted as separate elements are—in fact—related and belong combined into one. After our team launched the app during the TESOL conference presentation, we were surrounded by teachers from around the globe who were interested in adding the app to the professional development tools to which teachers in their country had access. We began to notice that very often the teachers and teacher educators who were most interested in our work talked of their countries being in crisis— typically political upheaval—which interrupted the supply of formal learning opportunities available to teachers. Although it now seems clear to us that, of course, teacher professional development would quickly dissolve when a society is in turmoil, we had not made this connection before. Janine and Gina had been simultaneously researching the impact of political trauma on teachers of English language learners while developing the ECMs and had thought of the two projects as separate. As teacher after teacher talked to us about their country's tumultuous context (and, consequently, the need for ECMs there), we realized that the very teachers we hoped to support would likely have students who were
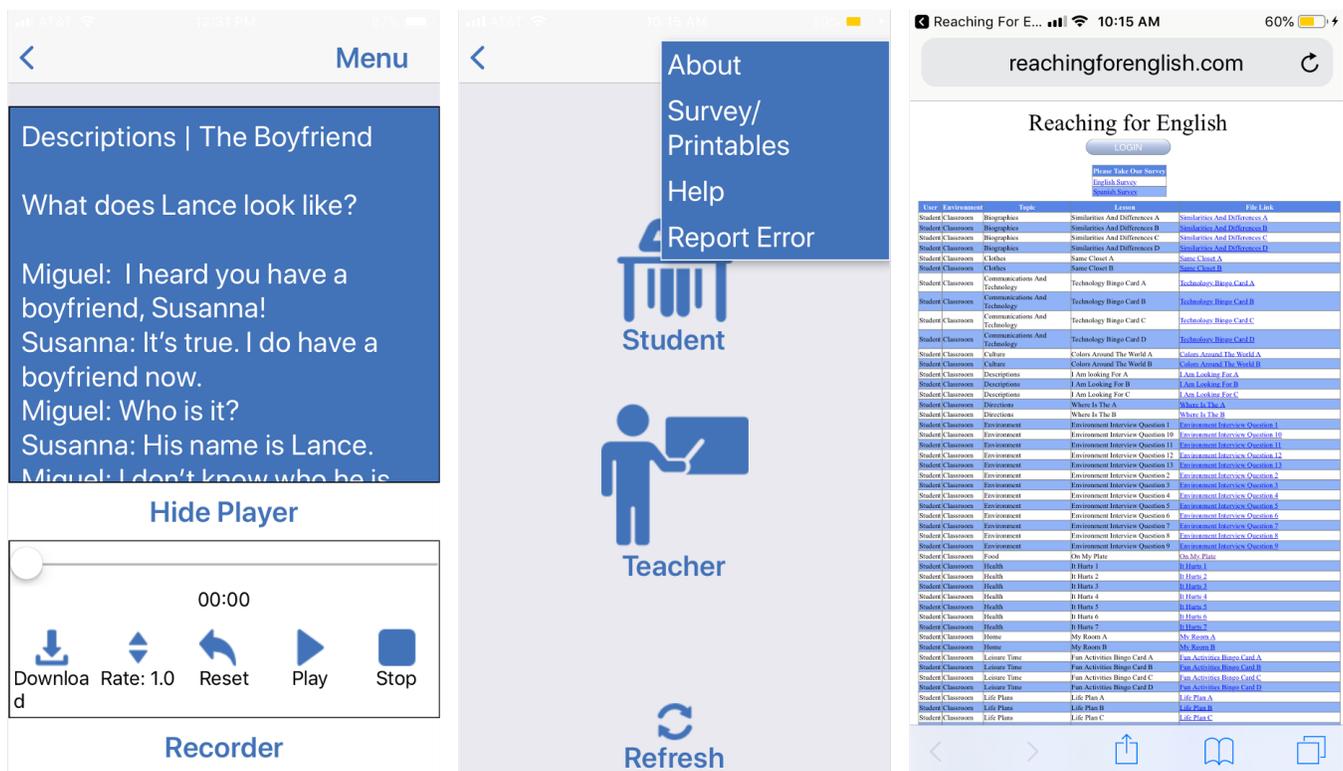

FIGURE 12. Screenshots of the menu, access to PDFs of the ECMs, and a survey on the Reaching for English app (Used with permission from Janine Darragh, Gina Petrie, and Stan Pichinevskiy).

experiencing the impacts of trauma at some level and would benefit from trauma-sensitive teaching (Cole et al., 2005). In this way, another element of our ECM design emerged: guiding teachers with their understanding of strategies that support students whose learning is impacted by trauma. The OER Commons platform will allow teachers to specifically search for ECMs with trauma-sensitive elements through the use of tags. Then in typical ECM style, teachers will gain professional development by carrying out lessons that include "sticky" trauma-sensitive design and a brief explanation in the lesson plan will highlight the trauma-sensitive strategy included. Consequently, as we think about the teachers and students in Nicaragua who have now experienced more than two years of a revolution, as well as teachers around the globe who are living during a pandemic health crisis, we see how key trauma-sensitive teaching strategies could be for them and what an important element this is for ECMs.

With the move to the OER Commons we next plan to invite our university students—future teachers of English—to contribute, as well as to provide training for teachers around the word to feel comfortable to begin adding their own materials. With positive responses from teachers in Nicaragua, Venezuela, the Dominican Republic, Thailand, and Ukraine, we feel that Reaching for English as an Open Educational Resource will have the power to encourage, inspire, and affect teachers around the world outside of the formal teacher education institutions. Although in designing this project, nothing has gone quite as planned, and we essentially failed to bring our ECMs in physical form to the rural teachers of Nicaragua, we do believe that we were able to fail forward. This new platform will open pathways to reach even more teachers in need of professional development and, perhaps, in even deeper and more meaningful ways.

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