

PUBLIC DRAFT IN DEVELOPMENT

Field Testing Cell-Ed: Mobile Learning for All

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Ana learned English skills on Cell-Ed to qualify to earn a dollar more caring for English speaking clients in Miami, pictured with staff from United HomeCare and the Domestic Workers Alliance

Introduction

"I study on the bus or on the train or at breaks at work."

"I have it all the time in my hand."

"I used to be bored at my kids' soccer practices and swim lessons but now I study English."

"My students LOVED it."

- Quotes from field testing surveys with Cell-Ed ESL learners and World Education instructors

Like her coworkers, home health care provider Ana appreciated the mobile learning platform Cell-Ed for enabling her to study anytime, anywhere entirely by phone. A single mother juggling multiple clients and responsibilities, she learned the specific English vocabulary she need to care for an English speaking client and qualify for a dollar an hour wage increase.

When recent Julio started workplace English classes at the Seaport Hotel he cleaned, teachers worried he might drop out as his English was so far below that of his coworkers. Fortunately, he was able to study both in and outside of class on a Pre-ESL level of Cell-Ed that offers bilingual instruction. His teacher credits Cell-Ed for his stunning progress in learning new vocabulary and starting to speak confidently in just a few weeks with accurate pronunciation.

Field Testing Cell-Ed

For the past year, the EdTech Center @ World Education has been field testing technologies that support learning and career advancement for adults who are working hard to overcome barriers to traditional schooling and career pathway development. The technologies are funded by the [Employment Technology Fund](#). The fund aims to support adults struggling to succeed in today's labor market, many of whom are women, minorities, and immigrants, of whom 36 million have low literacy skills (OECD, 2013)¹. Because of this, technology promises to fill the gap and the EdTech Center is fortunate to be on the front lines of researching how to leverage digital strategies to increase the reach and outcomes of education and workforce and initiatives (Rosin, Vanek, Webber, 2017)².

One such promising technology is [Cell-Ed](#), a mobile learning technology that delivers micro lessons on highly relevant topics to learners via any device. The learner accesses the Cell Ed curriculum anytime, anywhere and even on the go using a flip phone, a tablet, or a laptop. A Cell Ed coach follows and supports each learner using texting and even phone calls to nudge, motivate, and provide feedback and further instruction.

The ETC has recently wrapped up field tests of Cell Ed in two different contexts 1) in support of blended learning for hospitality workers at the Seaport Hotel in Boston and 2) with home health care workers in Miami, who are using Cell Ed completely independently after learning of it through their employer and the National Domestic Workers Alliance. The findings are also supported by data provided by Cell-Ed and the Service Employees International Union (SEIU) that allowed for comparing learnings from EdTech Center field tests to learnings and outcomes from use of Cell-Ed in varied contexts across the country with frontline healthcare workers.

Our review of learner engagement in both blended and 100% distance learning models has shown Cell-Ed's flexibility. It has also deepened our interest and belief in the potential and power of mobile learning to reach and upskill the millions of lower skill adults currently not able to attend regular classes.

Field Test Findings Support Mobile Learning and Cell-Ed Improvements

The two varied contexts of blended and 100% distance learning for our testing of CellEd provided complementary data and the resulting findings. Rather than waiting until the end of the testing project, we collaborated actively with Cell Ed developers and our field test partners, and, in an iterative fashion, our research informed continuous updates to the mobile learning technology and learner experience. These findings include the following observations.

¹ OECD. 2013. Survey of Adult Skills: First Results, United States Country Note. Brussels: OECD. <http://www.oecd.org/site/piaac/Country%20note%20-%20United%20States.pdf> Pg 12.

² Rosin, M., Vanek, J., & Webber, A. A. (2017). How Investment in technology can Accelerate Collective Impact in Adult Learning. Boston. <https://edtech.worlded.org/wp-content/uploads/2017/12/Investment-in-Tech-Nov-30-FINAL.pdf>

Distance Learning Anytime, Anywhere

In Miami, the story of Ana is particularly telling as to the need and opportunity mobile learning presents to bring educational opportunities to low-income adults juggling multiple jobs and responsibilities who cannot attend in-person classes. A recent immigrant from Cuba, Ana is a mother who juggles multiple clients she cares for as a home health aide and a regularly changing schedule.

Ana studied on Cell-Ed over 30 hours at work when her patient was sleeping or from home late at night. *"I learned new vocabulary words like linens, pants, diapers that I need to better communicating with my clients,"* she said. After studying on Cell-Ed, Ana demonstrated to her employer that she had learned the specific English she need to care for an English speaking client and thereby qualify for a dollar an hour wage increase.

Ana and 24 other immigrant home health care aides studied on Cell-Ed through our field testing as part of a unique partnership between [United HomeCare](#) (UHC) and the [National Domestic Workers Alliance](#) (NDWA) in Miami. The two unlikely allies are working together on tackling the crisis of lack of bilingual home health care aides to care for the bulging elderly population in Miami. To meet the need to help thousands of frontline care providers become bilingual, the organizations smartly looked to mobile learning. UHC identified employees at English ESL SPL Level 2 who had an interest in studying, and NDWA assisted with field test design and learner onboarding.

Learners like Ana who were highly motivated to study somehow found the time, and a small group successfully completed two 15-hour courses in a short period of two months. A few others studied regularly as well, just on a slower pace of an hour or so per week. One such learner, Rosa, is a mother of two young children who had to drop out of community college due to lack of childcare but says she would study when her kids were napping or if she could hide from them in the bathroom long enough to complete a quick lesson or two. Other learners spoke of studying on Cell-Ed during breaks and lunch, on the train, on the bus, or in their car waiting for their shift to begin. Most of the home health care aides studied on the go for 10 minutes or so at a time, such as in these examples.

Amongst the Seaport hotel employees and the United HomeCare home health care, there were several who would find time to sit down and study on Cell-Ed for an hour or two at a time, sometimes even with notebook out to take notes, but such usage was less prevalent. One such learner, Antonio, shared of the opportunity to practice English on Cell-Ed, *"I fall asleep when I try to read a book, but the short Cell-Ed lessons keep my attention."*

Mobile as Part of Blended Learning - to Extend & Differentiate

Teachers in the workplace ESL class at Seaport Hotel found Cell-Ed to be a flexible teaching and learning resource that they could assign to extend learning outside of the classroom or use to help differentiate learning for learners with different levels. The field test at the Seaport supported the

efficacy of using mobile learning technology in support of a blended instruction. Blended learning opportunities allow learners to work in two modes, both in class and online. In this case, the online was mobile.

Hospitality workers at Seaport used the Cell Ed app on their smartphone to intensify their learning whenever they had time and where ever they were. The lessons in Cell-Ed were not closely synced to the instructional syllabus in the classroom, but the two teachers at Seaport had access to an LMS, so they had the opportunity to monitor their learners' work and respond in class to issues that they may have seen arise online.

As with the home care workers, portability was crucial for the hotel employees who, when interviewed shared *"I have it all the time in my hand,"* and *"We have teacher any time any place with us."* This portability allowed students extra practice outside of class at their level, whenever they could, like at home after work or, for one learner with small children and no time for home study, on the bus or during work breaks.

Additionally, the teachers interviewed appreciated that the learners were motivated to use Cell-Ed to add extra time for learning in a new way. This was especially important to Rose, who according to her teacher was very quiet in class. Rose told us, *"We learn by doing again. That's why we study."* She spent nearly 60 hours and excelled in Cell-Ed. The different modality that offered a chance for repetition gave Rose a chance to shine. Another student similarly appreciated the extra instruction, saying, *"It is like having another teacher."*

One of the teachers, Kathleen, noted that her class had such a broad skill range in her class that her students were using four different levels of Cell-Ed. Kathleen noted that she could use it to give everyone relevant learning opportunities. *"Occasionally I would work with a learner on different work while others were on Cell-Ed. Or, sometimes I encouraged my very beginning level student to log on to Cell-Ed if we were working in class on material that was just too difficult for him. He always happily obliged!"*

One such student at a different level was Julio, a recent immigrant from Central America, whose English was far behind the level of his new coworkers, raising concerns that he might drop out. Fortunately, Julio was able to study on Cell-Ed at his level of Pre-ESL, which begins with bilingual instruction. *"I am so impressed with his progress. I was stunned last week when asked me in English for headphones, and with great pronunciation"* said Kathleen. *"He also made small talk with other students about what type of food they like using language I know he learned on Cell-Ed."*

Blended Learning supports Persistence

The most interesting finding from the Seaport Hotel is that the opportunity to start using CellEd as part of blended learning seemed to support persistence in Cell Ed. This finding was supported by data in two different ways.

Firstly, the Seaport field test had two phases, the blended learning phase for workers enrolled in the ESL class, and a stand-alone phase for workers who were not in the class (tested too high for the class). Data show that the persistence in CellEd was lower for this stand alone group than it was for their in-class colleagues. Also interesting is that all of the learners who completed two or more levels in Cell Ed (and spend the most time in Cell Ed) were those who persisted after the class ended. This suggests the benefit of having established a routine for independent learning while in-class continued after the class ended.

Coaching Provides Welcomed Support for Mobile Learning

[Section in development](#)

Flexible Tools to Support Blended Learning

[Section in development](#)

Need Vocational ESL AND General ESL Curricula

[Section in development](#)

The goals of the employers partnering in both field tests centered on the need for workers to develop English language proficiency in order to communicate with monolingual English speakers at their workplace. At Seaport, these might be hotel guest or hotel staff. In Miami, the home health care workers need to communicate with English-speaking clients. Our data suggest that there is a real need for these workers to gain proficiency in both daily, general English that can support oral and written interaction on the job AND domain specific vocabulary that they need to communicate about their jobs.

“There is a design innovation challenge to finding the right mix of learning content, depending on competing needs of partners and learners” Jessica Rothenberg Aalami, CEO of Cell-Ed.

This was particularly evident in the Miami field test. The learners interviewed indicated that the vocabulary instruction in the custom HHA curriculum was useful. Ana, introduced above, talked about how the HHA course supported her vocabulary development, which made it possible for her to make progress with the vocabulary and supported her persistence as she saw her learning goals aligned with that focus within the Cell-Ed curriculum written for HHAs.

Seamless Onboarding Key to Engagement and Persistence

In both sites, the data gathered during onboarding process show that some support is necessary for successful onboarding. There is tension in this finding with the need for openly accessible learning opportunities. As our partner in Miami put it, *“We need to have a bus with a poster of Cell Ed drive by and workers get the app and get started independently.”* Indeed the impetus for Cell Ed development was to provide learning for adults not enrolled in a class.

Cell Ed developer, Jessica... acknowledges this tension, *“Education partners want security, things like passwords and verification of learner accounts, but this makes simple onboarding a challenge. This is a great area for innovating considering different demands. One that we take seriously.”* In response, Cell-Ed has developed a process and resources to support a range of onboarding scenarios, including traditional phone and text support to videoconference to in-person support from a classroom teacher.

Conclusion

Section in development