INNOVATION IN ESL EDUCATION:
MOBILE-LEARNING TECHNOLOGY

This presentation was prepared by an independent consulting firm for the Bill & Melinda Gates Foundation. While the data and analysis contained in this document were used to inform the foundation, it is not a representation of the current grantmaking strategy.

For more information on the foundation’s education strategy, please visit: www.gatesfoundation.org/education
Innovation in ESL Education: Mobile-Learning Technology

March 2008
Agenda

- What is the problem?
- How can we innovate?
- What are other potential opportunities?
What Is the Problem?

The Adult ESL Population Is Enormously Underserved

Sizing the Gap between Demand and Supply for ESL Courses among LEP Adults

Note: Includes U.S. LEP Population 18 years and older; LEP defined as speaking English less than "Very well"; Acute LEP are those that speak English "Not at all" or "Not well"
Source: NCES; US Census Bureau; 2005 National Household Education Survey: Adult Education; Business Wire (9/07); Parthenon Phase I Survey (n=70)
What Is the Problem?

Unmet Need Is Driven by Funding Constraints

Annual U.S. Government ESL Spending per LEP (2007)

- Public Spend per LEP: $46

Adult ESL Funding (2007)

- Yearly Funding
  - Current Government Funding
  - Additional Funding Required To Meet Unmet Need
  - Tuition, Charitable Contributions, Foundations, Other

- Annual Funding Needs ($B)
  - $1B
  - $2B
  - $3B
  - $4B
  - $5B

Mitigants to Near-Term Increases in Funding Levels

- **Difficult political climate for immigrants**
  - Comprehensive Immigration Reform Act of 2007 died in the Senate after a filibuster
  - States cracking down on illegal immigrants: denying in-state tuition and state financial aid, not issuing driver's licenses

- **No federal funding directed specifically to ESL**
  - States free to distribute federal funding between the two elements of Adult Education (Adult Basic Ed. and ESL) as they see fit

- **State caps and restrictions limit funding growth**
  - States are required to match at least 25% of the federal funding allocation, but the actual levels of state matching vary widely
  - Some states, like California, enforce an annual growth cap on adult school funding

Narrowing the gap between supply and demand through increasing available seats is unlikely due to budget and funding issues

Source: U.S. Department of Education; U.S. Office of Vocational and Adult Education; U.S. Census; NCES
What Is the Problem?

Hence the Need to Prioritize a Target Population – Those with the Greatest Need Who Will Most Benefit from ESL Training

**Average Foreign-born Income by English Proficiency and Educational Attainment**

- **Less than High School**: 25% Not at All, 24% Not Well, 24% Not to Well, 21% Well to Very Well
- **High School Graduate**: 24% Not at All, 21% Not Well, 9% Not to Well, 5% Well to Very Well
- **Some College**: 15% Not at All, 22% Not Well, 10% Not to Well, 6% Well to Very Well
- **Degree Beyond High School**: 52% Not at All, 31% Not Well, 15% Not to Well, 7% Well to Very Well

**Poverty Index by English Proficiency and Educational Attainment**

- **Less than High School**: 14% Not at All, 14% Not Well, 2% Not to Well, 1% Very Well
- **High School Graduate**: 14% Not at All, 15% Not Well, 8% Not to Well, 1% Very Well
- **Some College**: 19% Not at All, 14% Not Well, 14% Not to Well, 7% Very Well
- **Degree Beyond High School**: 28% Not at All, 14% Not Well, 16% Not to Well, 14% Very Well

**Base Salary (Not at All)**

- $16,831 (Less than High School)
- $18,406 (High School Graduate)
- $21,720 (Some College)
- $23,766 (Degree Beyond High School)

**Average Poverty Level (Not at All)**

- 171 (Less than High School)
- 194 (High School Graduate)
- 203 (Some College)
- 232 (Degree Beyond High School)

**Note:** Poverty line based on U.S. Census calculations based on family size and household income; Poverty line=100, most federal programs accept up to 130 or 185

**Source:** U.S. Census Bureau American Community Survey; Parthenon Analysis

A clear relationship exists between both income and the poverty line and the level of English proficiency; a similar relationship does not hold for the unemployed or those not in the labor force.
What Is the Problem?

By Focusing on the Employed, There Is Potential For Significant Impact on Lifetime Earnings by Improving English Ability

**Lifetime Earning Potential of Target Population (Less than High School)**

<table>
<thead>
<tr>
<th>Level of Spoken English</th>
<th>Total Lifetime Earnings</th>
<th>Amount of Increase*</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well</td>
<td>$803K</td>
<td>$210K</td>
<td>21%</td>
</tr>
<tr>
<td>Not well</td>
<td></td>
<td>$176K</td>
<td>22%</td>
</tr>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
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</tbody>
</table>

**Lifetime Earning Potential of Target Population (With HS Degree)**

<table>
<thead>
<tr>
<th>Level of Spoken English</th>
<th>Total Lifetime Earnings</th>
<th>Amount of Increase*</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well</td>
<td>$871K</td>
<td>$212K</td>
<td>20%</td>
</tr>
<tr>
<td>Not well</td>
<td></td>
<td>$216K</td>
<td>25%</td>
</tr>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
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</tbody>
</table>

Note: Lifetime earning potential includes age 18-64;* From previous LEP level
Source: U.S. Census Bureau American Community Survey; Parthenon Analysis
What Is the Problem?

This Employed Target Population Consists of ~5.1MM Adults Who Speak English “Not at All” or “Not Well”; At Current Funding Levels, this Number will Continue to Grow

Breakdown of Low Education
Acute LEPs (2006)

Target LEP Population

Overall Employment Status of LEP Population

- Unemployed
- Not in Labor Force (Retired)
- Not in Labor Force (Working Age)
- Employed (“Not Well”)
- Employed (“Not at All”)

9.3MM

Projected Growth in Target Population (2006-2016F)

- Immigration & Transition to Adulthood/Employment
- Transition to English Proficiency & Workforce Exits

-2.3MM

Total Target LEP Population (in Millions)

5.1MM

Note: Target population consists of employed, acute LEP population with high school diploma or less, ages 18 and older

Source: U.S. Census Bureau American Community Survey; Parthenon Analysis
What Is the Problem?

Increased Efficiency Through More Innovative Technology Is Most Needed with “Not at All” Population

Q: For Adult ESL students, rate the product’s effectiveness on a scale of 1 to 7 where 1 is “Not at all effective” and 7 is “Extremely effective”

Q: Rate the following statements on a scale of 1 to 7 where 1 is “Completely disagree” and 7 is “Completely agree”

Hence, Parthenon proposes a prioritized approach for the Gates Foundation:
- **Priority I**: Design a product to meet the needs of the “Not at All” adult employed population
- **Priority II**: Investment in high potential existing technologies to increase access to instruction for the “Not Well” population

Source: Parthenon Phase II Survey, n=76
Agenda

- What is the problem?

- **How can we innovate?**

- What are other potential opportunities?
How Can We Innovate?

Common Sense Dictates the Necessary Components to this Solution

<table>
<thead>
<tr>
<th>Solution Components</th>
<th>Description</th>
<th>What We Heard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces classroom time through blended learning component</td>
<td>• Allows reduction in classroom time by 75%</td>
<td>“I know it’s possible, I’ve seen it.” - University Professor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“It is certainly possible to reduce classroom time with the use of mobile technology.” - University Professor</td>
</tr>
<tr>
<td>Flexible and convenient</td>
<td>• Ability to learn English during downtime (e.g., on bus, at home, etc.) and at own pace</td>
<td>“Students can go at their own pace and on their own time...this will give students who can’t make class regularly a way to learn.” - Adult Literacy Provider</td>
</tr>
<tr>
<td>Targets employed individuals</td>
<td>• Relationship between level of English and income helps define target pop.; class scheduling should be conducive to the employed</td>
<td>“We’ve seen proof of higher rates of promotion and performance due to English Language Learning. The employers we work with will tell you this definitively.” - technology-based ESL Provider</td>
</tr>
<tr>
<td>Low-Cost</td>
<td>• Leverage existing infrastructure and tools</td>
<td>“Anything for these students should be easy to use, and cheap!” - University Professor</td>
</tr>
<tr>
<td>Personalized</td>
<td>• Monitor student use of application and engagement</td>
<td>“It can help to individualize learning but must be simple – just push a button.” - Public Library Representative</td>
</tr>
<tr>
<td>Interactive</td>
<td>• Critical component of learning a language (e.g., pronunciation, confidence)</td>
<td>“Anyone can figure out how to use a cell phone; if this technology could go onto cell phones, people world-wide could learn English.” - Community College Program Director</td>
</tr>
<tr>
<td>User-friendly</td>
<td>• Simplicity and ease of use is key for adoption purposes</td>
<td>“Many of our students, even low-level, already use hand-held devices like cell phones to communicate. Using Web 3.0 apps to give students more time with the lessons just seems like a natural extension of a skill they already have.” - Community College Professor</td>
</tr>
<tr>
<td>Pedagogy that addresses key ESL Learning areas (e.g., life skills, job skills, civics, etc.)</td>
<td>• Lessons should focus on building skills that are most relevant to the learner</td>
<td>“Should have lots of listening and repeating sequences or listening and matching activities; any type of tool must include life skills and be culturally sensitive.” - CBO Representative</td>
</tr>
<tr>
<td>Prescriptive program driving curriculum</td>
<td>• Must set complete curriculum (vs. solely a supplemental tool) in order to gain traction</td>
<td>“If the content is scaffolded, and the technology is intuitive and easy to use, there is no reason why lower levels of students couldn’t use it.” - Community College Program Director</td>
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</tbody>
</table>
**How Can We Innovate?**

**No Current Domestic Technologies Meet These Hurdles**

<table>
<thead>
<tr>
<th>Description</th>
<th>Examples</th>
<th>Low Cost</th>
<th>Interactive</th>
<th>User-Friendly</th>
<th>Does Not Require Computer</th>
<th>Does Not Require Literacy</th>
<th>Allows Study Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CD-ROM Software</strong></td>
<td>• Supplemental tools offering practice problems and quizzes as well as more structured curriculum-based programs</td>
<td>• Rosetta Stone</td>
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<td></td>
<td>• Pearson ELLIS</td>
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<td><strong>Online Practice Tools</strong></td>
<td>• Primarily supplemental tools offering practice problems and quizzes, games and activities</td>
<td>• 4esl.org</td>
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<td></td>
<td>• TESL.org - Teachers of ESL</td>
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<td></td>
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<td><strong>Electronic Dictionaries</strong></td>
<td>• Online or handheld tools popular to expand vocabulary and practice pronunciation</td>
<td>• ECTACO Partner EW800/ITravl</td>
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<td><strong>Interactive Web Portal</strong></td>
<td>• Newer products package learning in a multimedia experience</td>
<td>• USA Learns</td>
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<td><strong>Social Networking Sites</strong></td>
<td>• Networking sites allow ELLs to interact with native speakers to practice pronunciation and other skills</td>
<td>• LiveMocha</td>
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<td></td>
<td>• SharedTalk</td>
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<td></td>
<td>• Soziety</td>
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<td><strong>Hand-held Learning Tools</strong></td>
<td>• Newer products offer similar services in a hand-held format, letting ELLs practice skills more often</td>
<td>• Sed de Saber</td>
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<tr>
<td><strong>Cell Phones</strong></td>
<td>• Cell phone-based mobile learning initiatives offer ESL instruction</td>
<td>• METU (Turkey)</td>
<td></td>
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<td></td>
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<td></td>
<td>• Praxis (China)</td>
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<td>• Athabasca University (Can)</td>
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<td></td>
<td>• Tribal Edu. (UK)</td>
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However, innovative solutions are in development internationally; a cell phone initiative is the most logical solution to fit the problem.
# How Can We Innovate?

## These Innovations Are Occurring Primarily Internationally and Are in Their Nascent Stages

<table>
<thead>
<tr>
<th>Description</th>
<th>Insights / Key Observations</th>
</tr>
</thead>
</table>
| **Dr. Kursat Cagiltay, Middle East Technical University - Turkey** | - Mobile phone-based ESL program for high school students  
  - Use MMS (teaching) and SMS (quizzes) to teach vocabulary and pronunciation | - Mobile phones found to be more effective than computers or hand-outs (attributed to convenience factor) in a controlled experiment |
| **Tribal Education & Technology (M-learning) - UK** | - Educational software specializing in M-learning technologies (e.g., mobile phones, pocket PCs, online tools, etc.) | - Used for self-learners, classrooms, or blended learning  
  - Targets immigrants |
| **Praxis (EnglishPod, ChinesePod) - China** | - Primarily podcast-based product  
  - EnglishPod product is particularly business-English focused | - Use of podcasts have shown remarkable increases in popularity  
  - ChinesePod is receiving over 300k unique visitors per month online |
| **Athabasca University (M-learning) - Canada** | - Use mobile phones as the primary component of ESL learning  
  - Curriculum designed as a review of grammar principles in a typical beginning ESL course | - Lowest-level ESL students realized the biggest proficiency increases in pre- and post-testing  
  - Teacher provides 30 minutes of training on how to use mobile phone  
  - Internet-based content accessed through proxy server on 3G capable phones ($50 phones provided to students) |
| **University of Tokushima - Japan** | - Use of PDAs, GPS and RFID tags to teach English to foreign students | - Supports language learning outside classroom through informal learning and providing real life tasks to students  
  - Helps learner memorize vocabularies by using RFID tags to display information |

Source: Parthenon Analysis; NYT article (2/17/08)

These initiatives provide proof that it is possible to use technology - particularly cell phones - to further enable ESL learning.
How Can We Innovate?

A Cell-Phone Initiative Has the Capability to Address Key Needs; Over 75% of “Not at All” Target Population Has Access to a Cell Phone in Their Home – Penetration Will Continue to Increase

Flexible and Convenient

Oral learning

Writing and Reading

Visual learning

Interactive

Low-cost

Cell Phone Penetration for “Not at All” Target Population

Overall US Population

"Not Well" Target Pop.

<table>
<thead>
<tr>
<th>Category</th>
<th>Overall US Population</th>
<th>&quot;Not Well&quot; Target Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Phone Ownership</td>
<td>81%</td>
<td>N/A</td>
</tr>
<tr>
<td>Cell Phone Access</td>
<td>62%</td>
<td>24%</td>
</tr>
<tr>
<td>Total</td>
<td>81%+</td>
<td>86%</td>
</tr>
</tbody>
</table>

Source: Parthenon Phone Survey, n=100; Pew Foundation Annual Report
How Can We Innovate?

Cell Phone Functionality Is Advancing Rapidly

**Current Functionality**

**Low-end Cell Phones**
- Voice capabilities
- Text messaging
- Low intensity single player games
- Basic speech recognition
- Photo-taking ability (camera)

**High-end Cell Phones**
- Voice capabilities
- Text messaging
- Multimedia Messaging Service (MMS)
- Multi-player video games
- Speech recognition
- Podcasting (MP3 player)

**Future Functionality (next 2 years)**

**Low-end Cell Phones**
- Multi-player video games
- Speech recognition
- Multimedia Messaging Service (MMS)
- Other?

**High-end Cell Phones**
- Graphically intense multi-player video games
- Live TV
- Applications ranging from educational or financial transactions to communication platforms
- Greater web functionality

![Cell Phone Replacement Cycle](chart)

**Replacement Cycle for Target Population Owning Cell Phone (2007)**

- Only purchased current cell phone: 3+ Years
- Between 1-3 Years
- Every Year

**Approximately 70% of our target population will replace their cell phone within the next 3 years**

Source: Parthenon Phone Survey, n=100; Parthenon Interviews; Cell Phone Carrier Websites
How Can We Innovate?

M-Learning Can Drive a Blended Learning Program

Potential Program Flow:

- **Organizations Enroll in Program**
  - Organization buys a set number of “M-Learning” program subscriptions from supplier

- **Students Are Assisted in Setting Up Cell Phones**
  - Organization prioritizes employed learners with rationale being that there are modules specific to the employed
  - Organization assigns subscriptions to students enrolled in ESL classes
  - Students register the program on their phone with a unique ID/password
  - Students increase the minutes or data plan on their cell phone, if necessary
  - Students are assisted in cell phone learning orientation (est. ½-1hr. required for cell phone module explanation at beginning of course)

- **Teacher Leads Integration of Program**
  - Teacher oversees classroom and cell phone coursework
  - Teacher sets expectations around use of program outside of class; deadlines for cell phone work are enforced with class time component

- **Students Use Program for Duration of Class; Ongoing Teacher Review of Student Data**
  - Students use M-Learning outside of class time
    - Spend ~25% of their time in class
    - Spend ~75% of their time working with the cell phone program
  - Teachers monitor student progress on cell phone program
    - Real-time data available to shape in-class instruction
    - Early identification of problems/issues for specific students

- **Class Ends and Subscription Expires**
  - Program subscription ends and students can no longer access program
  - Teacher has access to “summary” of student use/performance data for duration of program

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Potential Program Flow:
How Can We Innovate?

Example: Product Delivery (Vocabulary and Pronunciation)

Step 1: MMS Received (New words received 3-4 times per day – sound clip for pronunciation included)

Step 2.1: Definition of word
[Step 2.1-2.3 in an 8-second loop]

Step 2.2: Visual representation of word

Step 2.3: Use of word in a sentence

Source: Middle East Technical University
How Can We Innovate?

CBOs and Libraries Are Well Positioned to Implement M-Learning

**Potential Distribution Channels**

1. **CBOs (Including Libraries)**
   - Large CBO/Library networks exist
     - Pro-Literacy (1200 CBOs), Urban Library Council (149 libraries and 22 library councils/associations) and ALA (3,500 libraries) are most prominent
   - Smaller class sizes are superior complement to blended-learning initiative
     - CBOs use 1-on-1 sessions or 2-6 students per class
   - Gates Foundation relationship with libraries can aid in advocacy
   - Pro-Literacy and Urban Library Council expressed interest in being part of initiative
   - “This is an important mandate for libraries; collaborating with the Gates Foundation on this would be well received.” – Urban Library Council

2. **Community Colleges**
   - CC landscape is extremely fragmented, particularly in purchasing/curriculum decisions
     - Historically averse to “course in a box” curricula
   - However, most schools are in desperate need of more efficient solutions
     - Even “best-in-class” programs still suffer from significant drop-out rates
     - “If it works, we’re all for it; the more people we can help, the better” – Israel Mendoza, Washington State
     - “You will find less loyalty to curriculums; if there’s something that can move more people through the system, we’ll embrace it.” – CCSF

3. **Employers**
   - Employer oversight necessary for classroom component
   - Research proving ROI is necessary to gain employer buy-in

**Channel fragmentation and multiple purchasing decision-makers will slow adoption; Carrier relationship could aid sales and marketing to channel**

**Cost and logistics of program implementation make strong adoption less likely**

**CBOs and Libraries are a good fit for an M-Learning initiative**

Source: Parthenon Analysis
How Can We Innovate?

Full Potential Impact on Target Population Enrollment is Moderate; High and Sustained Penetration Is Necessary to Impact This Cohort

Target Population Graduates from “Not at All” to “Not Well” per Year

- Total Current “Not at All” Population: 1.7MM

- 101.2K CBOs
- 682.2K Current
- 682.2K Technology Tool Potential
- 0K Restricted Enrollment Potential

Note: Cost per tool per course based on pro-rated annualized cell phone video game costs
Source: Parthenon Analysis

Assumptions

- **Target:** Employed beginner LEPs with low educational attainment (HS degree or lower)
- **Blended Learning Approach:**
  - 25% Classroom-based
  - 75% Technology-based
- **Blended Learning Cost to CBO:**
  - Classroom: $150
  - Phone/Hand-held Application: $36
  - Total: $186
  - Current cost per course is ~$600
- **Blended Learning Cost to CC:**
  - Classroom: $275
  - Phone/Hand-held Application: $36
  - Total: $311
  - Current cost per course is ~$1100

Status quo, this target population will continue to increase with no time horizon for graduation

Years to Graduate “Not at All” to “Not Well” Target Population

- Grows Through Restricted Enrollment
- 100% CBOs
- 25% CCs
- 50% CBOs
- 12.5% CCs
- 25% CBOs
- 6.25% CCs
- 8
- 13
- 18
- 0
- 5
- 10
- 15
- 20

Years to Graduate Target Population

- 8
- 13
- 18
- 0
- 5
- 10
- 15
- 20
How Can We Innovate?

Potential Profit Upside Is Not Significant Enough to Warrant Interest From Large Players

Note: Total market opportunity assumes 3 classes to move all "Not at Alls" to "Not Well" at a tool cost of $36 per class; *Estimates. based on LiveMocha start-up investment

Source: Parthenon Analysis
How Can We Innovate?

Additional Minutes and Data Plan Purchase Require a New Funding Mechanism Via the Student or a Cell Phone Carrier

Current and Future Spend per Month on Cell Phone Plan for Target Population

- Current Spend: $64
- Additional Spend Needed: $16-26
- Total: $80-90

Plan Increase Assumptions
- Plan increase of 300 minutes
- Additional text messaging/data capabilities

State Regulations Precluding Student Payment
- In California (largest LEP state), all government funding grantees are required to provide free courses to all students
  - Fringe costs cannot accrue to the student

Average Customer Acquisition Costs for Major Cell Phone Carriers
- Range: $200-300
- Average Cost to Acquire New Customer: $200

Additional cell phone plan fees for students are an additional potential barrier to successful roll-out that must be funded through other means (i.e. Carrier partner)

Source: Parthenon Phone Survey, n=100; Parthenon Interviews; Forbes.com; T-Mobile 10-K, 2007
Agenda

• What is the problem?

• How can we innovate?

• What are other potential opportunities?
What Are Other Potential Opportunities?

There Are Several Opportunities to Move the Dial for the “Not Well” Target Population

**Increased Enrollment within Current Funding Limits**
- Cell phone initiative has potential to be adapted to intermediate “Not Well” population
  - Currently being used in pilot phases in Turkey and Canada to address this population
- There are many technology programs considered “best-in-class” in each target channel
  - A “new” effective innovation is needed to differentiate product from current selection
- Social networking is an effective option
  - Provides a platform with content and a built-in peer network
  - Social networking site LiveMocha (founded by a former Microsoft employee) stands out for both user growth and reviews
    - Program currently lacks ties to classroom learning but is well-suited to a blended learning model

**New Market Catalyzation**
- There are 3.7MM target population “Not Well” LEPs
  - Increasing throughput by improving classroom efficiency is not enough – a market expansion program is necessary
- A cross-channel partnership between a for-profit online ESL instruction provider and an existing for-profit multi-campus institution has the opportunity to significantly expand the market
- Loans are likely required for target population to pay for class, and a strong IRR makes this a worthwhile investment
What Are Other Potential Opportunities?

There are a Plethora of “Best in Class” Products for ESL; CBO & Community College Administrators Find These Products Effective

Q: In your opinion, what is the Best-in-Class Adult ESL product in each of the following categories? [Graph]
Q: For Adult ESL students, rate the product’s effectiveness on a scale of 1 to 7 where 1 is “Not at all effective” and 7 is “Extremely effective” [Dashboard]

Source: Parthenon Phase II Survey, n=76
What Are Other Potential Opportunities?

Though in Its Nascent Stage, Social Networking Has High Potential, Offering A Platform with Built-In Curriculum and Peer Network

Key Offerings

- Differentiated offering from traditional online and offline software tools
- Provides a peer network that has built-in interactivity with social and motivational aspect
- Scalable solution that leverages the community and the web

Potential

- Creation of a prescriptive program with 25% classroom time and 75% technology in which peers can work together online
- Many language-learning social networking sites exist, including LiveMocha, Mixxer, SharedTalk, etc.
  - LiveMocha, based on speed of growth and reviews, is proving to be best in class
- USA Learns is a government-funded ESL portal and will go live in September 2008

Opportunity for Funders

- Fund curriculum analysis and assessment to determine quality of curriculum and drop-out rates and identify areas of improvement
- Fund pilot in CBOs/libraries/CCs
- Increase ESL-dedicated computer access in CBOs/libraries/CCs to encourage ESL study
- Merge offering with classroom learning to increase persistence

Source: Parthenon Interviews; LiveMocha
What Are Other Potential Opportunities?

LiveMocha Growth Has Been Rapid In 1st Year of Operation

Currently free of cost, subscription pricing plan for premium content is being developed, and ~$10-$30 per month could likely be negotiated down to similar $6 per month cost for “M-Learning” application with no additional voice/data plan cost attached.
What Are Other Potential Opportunities?

Biggest Hurdle With “Not Well” Population is Size – Operating Within Current Funding Restrictions is Not Enough to Meaningfully Aid Segment

Graduates from “Not Well” to “Well” per Year

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBOs</td>
<td>60K</td>
<td>408K</td>
</tr>
<tr>
<td>CCs</td>
<td>0K</td>
<td>0K</td>
</tr>
</tbody>
</table>

Impact of Throughput Expansion Initiatives

<table>
<thead>
<tr>
<th></th>
<th>Current Intermediate Population</th>
<th>Current Graduation Rate</th>
<th>Potential Graduation Rate w/ 100% Penetration</th>
<th>Remaining Intermediate Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7MM</td>
<td>-0.1MM</td>
<td>-0.5MM</td>
<td>3.1MM</td>
<td></td>
</tr>
</tbody>
</table>

Note: Estimated tool cost of $36 per class; Assume 1 class per year is taken by student at CBO while 2 classes per year are taken at Community College
Source: Parthenon Analysis

Technology Tool Assumption

- $36/year
- $72/year
## Census and NRS Levels of ESL and Corresponding Skills

<table>
<thead>
<tr>
<th>Census Level</th>
<th>National Reporting System (NRS) Level</th>
<th>Language Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Not at All&quot;</td>
<td>• Beginning Literacy (SPL: 0-1) • Low Beginning (SPL: 2)</td>
<td>• Cannot speak or understand English beyond very basic greetings and simple phrases and questions • Limited to no written skills in ANY language • Functions with difficulty in social situations • Limited to no knowledge of computers or technology but may be able to handle routine entry-level jobs</td>
</tr>
<tr>
<td>&quot;Not Well&quot;</td>
<td>• High Beginning (SPL: 3) • Low Intermediate (SPL: 4) • High Intermediate (SPL: 5-6)</td>
<td>• Can understand common words, simple phrases, and questions about personal everyday activities • Can read most sight words and many other common words on familiar topics and write simple sentences • Can handle routine entry-level jobs requiring basic English oral with very simplistic written communication • May have limited knowledge or experience using computers</td>
</tr>
<tr>
<td>&quot;Well&quot;</td>
<td>• Advanced (SPL: 7)</td>
<td>• Can understand and communicate in a variety of context related to daily life and work with basic fluency of speech • Can read moderately complex text, using context and word analysis skills to understand vocabulary • Can write multi-paragraph text using some complex grammar and a variety of sentence structures • Can handle jobs that require routine interaction with the public • Can use common software and learn new basic applications</td>
</tr>
</tbody>
</table>

Source: National Reporting Service (NRS); City College of San Francisco
Appendix

Target Population Breakdown by Industry and Employment Type

Target Population Employment by Industry and Type (2006)

Note: Target population consists of those who speak English less than "Well", have less than or equal to a high school degree, and are 18 years or older and employed.

Source: U.S. Census Bureau American Community Survey
## Funding for ESL Differs Across States

### Annual ESL Government Spending per LEP by State (2007)

<table>
<thead>
<tr>
<th>State</th>
<th>ESL Spend per LEP ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>$95</td>
</tr>
<tr>
<td>California</td>
<td>$52</td>
</tr>
<tr>
<td>New York</td>
<td>$25</td>
</tr>
<tr>
<td>New Jersey</td>
<td>$25</td>
</tr>
<tr>
<td>Illinois</td>
<td>$17</td>
</tr>
<tr>
<td>Texas</td>
<td>$11</td>
</tr>
<tr>
<td>Other Non-Gateway States</td>
<td>$54</td>
</tr>
<tr>
<td>Total United States</td>
<td>$46</td>
</tr>
</tbody>
</table>

Source: U.S. Department of Education; U.S. Office of Vocational and Adult Educations; U.S. Census Bureau