Evaluating the Impact of Blended Learning On Performance and Engagement of Second Language Learners

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INTRODUCTIONS

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INTRODUCTIONS
OUTLINE

- Introduction to the Study
- Method
- Findings
- Conclusion
- Q&A
- Product Demo

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INTRODUCTION TO THE STUDY
INTRODUCTION TO THE STUDY

PLENTY OF PREVIOUS RESEARCH ON THE EFFECTIVENESS OF:

- Self-study language learning
- Blended learning

...BUT LITTLE ON BLENDDED LANGUAGE LEARNING

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What is blended learning?
How did blended learning come about?
## INTRODUCTION TO THE STUDY

<table>
<thead>
<tr>
<th></th>
<th>Traditional Classroom</th>
<th>Distance Learning</th>
<th>Blended Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-Face</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Low Attrition Rates</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Customizable</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Remote Accessibility</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Self-paced</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

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INTRODUCTION TO THE STUDY

RESEARCH QUESTIONS

1. To what extent does blended learning impact the performance of language learners?

   Performance refers to a learner’s VPA score

2. To what extent does blended learning impact the engagement of language learners?

   Engagement refers to how many activities the learner completed and how many days they were active in the 3-month period
METHOD
MATERIALS
Voxy
Tutoring
Voxy Proficiency Assessment (VPA)
VOXY

- English language learning platform
- Web & mobile app
- Self-study & synchronous instruction
VOXY’S GUIDING PRINCIPLES

- Task-Based Language Teaching (TBLT)
- Begin with a needs analysis
- Use a wide range of genuine resources
VOXY’S GUIDING PRINCIPLES

- Adapt lessons in order to individualize instruction
- Maximize the benefits of technology with high-quality, in-person instruction
TUTORING

- Online, personalized lessons
- Customizable
- Certified, native English-speaking tutors
- Student data-informed sessions
- Materials: Voxy, chat box, Google docs
- Qualitative & quantitative feedback
- Mapped to overall Voxy performance

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VOXY PROFICIENCY ASSESSMENT (VPA)

- 63 multiple-choice questions
- Parallel version of VPA offered every three months
- Two different levels of difficulty of VPA
PROCEDURES

- Records were searched to identify learners who had:
  - taken at least two versions of the VPA
  - used Voxy for at least three months between the two VPAs

- Group A: 1 or more tutoring sessions (n=19)
- Group B: 0 tutoring sessions (n=19)
Paired samples t-test indicated that there was no significant difference in the starting proficiency scores for learners:

- Group A ($M=831$, $SD=279$)
- Group B ($M=831$, $SD=272$)
- $t(18)=0.117$, $p=0.908$
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DEMOGRAPHIC</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>21</td>
<td>55.3</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>17</td>
<td>44.7</td>
</tr>
<tr>
<td>Native Language</td>
<td>Portuguese</td>
<td>19</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>Spanish</td>
<td>12</td>
<td>31.6</td>
</tr>
<tr>
<td></td>
<td>Arabic</td>
<td>3</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>Japanese</td>
<td>3</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>Chinese</td>
<td>1</td>
<td>2.6</td>
</tr>
<tr>
<td>Goals</td>
<td>English language media</td>
<td>28</td>
<td>73.7</td>
</tr>
<tr>
<td></td>
<td>Travel</td>
<td>20</td>
<td>52.6</td>
</tr>
<tr>
<td></td>
<td>Career</td>
<td>19</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>Day-to-day life</td>
<td>18</td>
<td>47.4</td>
</tr>
<tr>
<td></td>
<td>Language exam preparation</td>
<td>18</td>
<td>47.4</td>
</tr>
</tbody>
</table>
FINDINGS
## PERFORMANCE

### VPA Performance by Group

<table>
<thead>
<tr>
<th>Group</th>
<th>VPA 1 Score ($M$)</th>
<th>VPA 1 Score ($SD$)</th>
<th>VPA 2 Score ($M$)</th>
<th>VPA 2 Score ($SD$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>831</td>
<td>279</td>
<td>902</td>
<td>297</td>
</tr>
<tr>
<td>B</td>
<td>831</td>
<td>272</td>
<td>781</td>
<td>263</td>
</tr>
</tbody>
</table>

Group A: Average score increase of 71 points

Group B: Average score decrease of 40 points

Total score difference for VPA 1 and VPA 2 for learners with and without tutoring

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PERFORMANCE

Data on performance and engagement were analyzed using a one-way analysis of variance (ANOVA).

○ No significant difference between VPA 1 and VPA 2 scores between subjects
  ● \( F(1, 36)=0.153, p=0.698, \eta_p^2=0.004 \)

○ Significant effect of tutoring sessions on the VPA 2 score
  ● \( F(1, 36)=5.395, p=0.026, \eta_p^2=0.130 \)
## ENGAGEMENT

<table>
<thead>
<tr>
<th>Group</th>
<th>Days Active (M)</th>
<th>Days Active (SD)</th>
<th>Total Activities (M)</th>
<th>Total Activities (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>25</td>
<td>21</td>
<td>236</td>
<td>228</td>
</tr>
<tr>
<td>B</td>
<td>12</td>
<td>13</td>
<td>120</td>
<td>152</td>
</tr>
</tbody>
</table>

Days Active: Group A more than double that of Group B

Total Activities: Group A almost double that of Group B

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FINDINGS > ENGAGEMENT

ENGAGEMENT

○ The total number of activities completed was highly correlated with the number of days active
  - $r=0.847$, $p=0.00$

○ Participating in tutoring sessions had a significant effect on the number of days learners used the software
  - $F(1, 36)=5.103$, $p=0.030$, $\eta_p^2=0.124$
NUMBER OF TUTORING SESSIONS

- Group A was split into two subsets
  - Low Tutoring (n=10)
    - 1-4 tutoring sessions
  - High Tutoring (n=9)
    - 5-33 tutoring sessions
Because the VPA 1 scores of the two tutoring subsets were not equal, the score difference between VPA 1 and VPA 2 was calculated for these subsets.

<table>
<thead>
<tr>
<th>Group</th>
<th>VPA 1 Score (&lt;i&gt;M&lt;/i&gt;)</th>
<th>VPA 1 Score (&lt;i&gt;SD&lt;/i&gt;)</th>
<th>VPA 2 Score (&lt;i&gt;M&lt;/i&gt;)</th>
<th>VPA 2 Score (&lt;i&gt;SD&lt;/i&gt;)</th>
<th>VPA Score Change (&lt;i&gt;M&lt;/i&gt;)</th>
<th>VPA Score Change (&lt;i&gt;SD&lt;/i&gt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>943</td>
<td>252</td>
<td>1022</td>
<td>219</td>
<td>79</td>
<td>188</td>
</tr>
<tr>
<td>Low</td>
<td>731</td>
<td>274</td>
<td>793</td>
<td>326</td>
<td>63</td>
<td>147</td>
</tr>
</tbody>
</table>
NUMBER OF TUTORING SESSIONS

- Low Tutoring group was vastly more engaged with the software than High Tutoring

<table>
<thead>
<tr>
<th>Group</th>
<th>Days Active (M)</th>
<th>Days Active (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Low</td>
<td>33</td>
<td>21</td>
</tr>
</tbody>
</table>
PURPOSE

1. Provide more empirical research on the effects of tutoring sessions on autonomous language learning

2. Measure the effectiveness of this blended method

This study focused on investigating to what extent blended learning impacts performance and engagement in language learners.
CONCLUSION

SELF-STUDY & TUTORING

- Greater proficiency gains
- Higher engagement

WHY?

- More time studying by the tutoring group
- Encouraged to engage with Voxy resources
- Targeted post-session feedback
CONCLUSION

NUMBER OF TUTORING SESSIONS

- Higher engagement among low tutoring group

WHY?

- Highly engaged users may be more likely to use all features of a product
- Tutoring can’t be taken on mobile
- Tutoring isn’t seamlessly integrated into the software

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CONCLUSION

FUTURE RESEARCH

- Larger overall $n$
- Larger group of tutoring users
- Task-based outcomes
- Mobile vs. web
- Predictive validity of VPA and other tests

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Q&A