Learning from our learners:
harnessing explicit and implicit feedback to boost engagement + improvement

Henry Garner and Diane Nicholls – enetCollect 3rd annual meeting – Lisbon, Portugal – 14th-15th March 2019
EnetCollect (CA16105)
European Network for Combining Language Learning with Crowdsourcing Techniques
Learning from our learners:

harnessing explicit and implicit feedback to boost engagement and improvement
It’s simple

1) Choose a topic
2) Write about it in English
3) Get instant feedback
4) Improve!

Write & Improve is a free service for learners of English to practise their written English. Submit your written work and receive feedback in seconds, covering spelling, vocabulary, grammar and general style.

Start writing
Write & Improve

Test Zone
Realistic exam writing practice

Class View
Set, mark, and manage writing practice

B2B API
3rd party integration
How sticky are our learners?
Since soft-launching on 5th September 2016:

- Over 2.5m unique visitors
- Over 580k have submitted a text
- Over 5.5m checks in total
- Currently receiving around 8,000 checks per day
Registered account growth is highly consistent
The active base grows more slowly.
The active base is constantly evolving
The active base is constantly evolving
W&I base is heterogeneous

- Around 5% are committed learners who return regularly
- Remainder tend to be ephemeral
- Around 85% of submitters each month are new that month
I speak your weight!
Crowdsourcing feature ideas and UX insights

Product improvements

Explicit feedback

Students and Teachers
1.1m-word Corpus of Review Essays

What do our users say about Write & Improve?
An email: Write and Improve

Read this note from your English-speaking friend, Luke.

Hi,

I found a program called Write and Improve on the Internet. It is for people who are learning English.

You should try it. I hope you like it! Tell me what you think.

Luke

Write a note to Luke and tell him about your experience with Write and Improve.

W&I Intermediate

A report: Write and Improve

Your English teacher told you about Write and Improve and said you should use it to practise and improve your English writing. Your teacher has asked you to write a report about your experience with Write and Improve, describing what you liked or didn’t like about it and why. Finish by saying whether you would recommend your classmates to try it.

Write your report.
Corpus analysis for insights into Learner eXperience

A corpus of 1.1 million words of learners’ (honest?) opinions about using the tool, including:

• what they like
• what they don’t like
• what they’d like added
• how they describe the experience
• whether or not they would recommend it and why
What they like (in approx. order of priority)

• It’s free!
• Instant feedback – no need to wait
• Lots of topics
• It tells you your level
• You can try again as many times as you like
• You can write about anything you like
• You can do it anywhere/anytime, even on mobile
Quicker than a teacher

What is more, it is showing me my mistakes and explain them to me, like my *teacher* do but more quiker.

I have already write asseys and my teacher checks the assey but I think this program faster than my *teacher*.

In this way, knowing where I need to improve at once, without waiting *teacher* to correct my writing.

Rather than having to wait for the *teacher* to go through your text you can immediately check what needs to be improved, work on it, and review your progress.

Write and Improve can give the response around 1 minute, it a big different between *teacher* marking that become faster to receive the feedback and realize the mistake can make changes as soon as possible.
What they don’t like (in no particular order)

- You have to create an account if you want your work to be saved
- Sign-up procedure too lengthy
- No app
- No social aspect to it
- No sample/model answers
- It doesn’t tell you the answers(!)
- No grammar reference
- Input box too small
- Boring topics
- It doesn’t cover style and argumentation etc.
- It’s just a robot
It’s just a robot

- I don't like feeling I don't have the opportunity to ask questions
- it is quite sad and cold not to have another person teaching you, this is the only thing I do not like about the webpage.

- First, it is just a robot and it doesn't recognize all my sentences.
- Maybe it's more realistic to think that a machine will correct my essay but if that's the case I would say that it's one of the things I don't like about it.
- On the other hand I don't like the fact that there's no human feedback and the checking of mistakes it's "feelingless".
- I didn't like because it was really difficult to study without a teacher and it was necessary to be very responsible.
Responses to review feedback

- ‘There’s no timer’ ➔ added a timer
- The graph only shows 5 results ➔ show 10 results
- Input window too small ➔ make window expandable
- Sign-up too lengthy ➔ sign-up using Facebook added
- Can’t print out from the app ➔ feature pending
- Not enough ‘Help’ ➔ FAQs and tutorials ongoing
- ‘The topics are boring’ ➔ Just for fun! workbook
An advertisement: A car in very bad condition

You have an interview for a job selling cars. As a challenge, the interviewer asks you to show that you can sell anything. Write a paragraph that will make someone want to buy the car in the photo.

Write your text here.

0 words entered. For this task you should enter between 100 and 500 words. Start writing!
Reasons for cancellation

Why do our subscribers churn?
# Cancellation Feedback

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count all</th>
<th>Student</th>
<th>Teacher</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coming back</td>
<td>64</td>
<td>58</td>
<td>6</td>
<td>64</td>
</tr>
<tr>
<td>Price</td>
<td>109</td>
<td>73</td>
<td>28</td>
<td>101</td>
</tr>
<tr>
<td>Other</td>
<td>54</td>
<td>35</td>
<td>8</td>
<td>43</td>
</tr>
<tr>
<td>Features</td>
<td>46</td>
<td>39</td>
<td>2</td>
<td>41</td>
</tr>
<tr>
<td>Ease of Use</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Placeholder</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>No Need</td>
<td>265</td>
<td>232</td>
<td>20</td>
<td>252</td>
</tr>
</tbody>
</table>

- Total: 548 (Student), 444 (Teacher), 67 (Total)
Coming back

Trevor

Cancellation feedback received from Trevor

Type: student
Reason: coming-back
Text: I'm not studying English now!
But the service is very nice and useful! I think to come back soon!

#cancellation-feedback
Text: The class I have will finish in two weeks. I will renew the subscription again later in the year when I need it.

Text: We are changing our courses around. As soon as we know what student groups we have we start another subscription.

Text: We're on summer holiday and my students don't need this during the holidays.

Text: As we'll soon be on holidays my students won't use write and improve.
Responses to churn feedback

• Make it possible to suspend a subscription when inactive and pick it up where you left off later
Support emails

Support email requests – and our responses
Support email questions and requests

- Can’t log on because signed up via FB.
- Can I subscribe and unsubscribe when I want?
- What is the yellow colour coding in feedback?
- Work not marked yet.
- Please correct my mistakes.
- Do you have sample answers?
- Can I have a discount?
- How does the scoring work?
- How can I cancel my account?
- How can I get a higher grade?
Using support emails to inform FAQs

- Scaffolding → building up the FAQs and adding more support
- Managing expectations → clarification of how W&I works
FAQs

Lessons from the most-read FAQs
## Top 10 FAQs

<table>
<thead>
<tr>
<th>Article</th>
<th>Written By</th>
<th>Updated</th>
<th>Viewers</th>
<th>Conversations</th>
<th>Reacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do the levels mean and what is the CEFR?</td>
<td></td>
<td>1 year ago</td>
<td>600</td>
<td>0%</td>
<td>6%</td>
</tr>
<tr>
<td>How can Write &amp; Improve help me improve my English?</td>
<td></td>
<td>2 months ago</td>
<td>443</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>How should I revise my writing?</td>
<td></td>
<td>5 months ago</td>
<td>213</td>
<td>0.5%</td>
<td>33%</td>
</tr>
<tr>
<td>How much does Write &amp; Improve cost?</td>
<td></td>
<td>7 months ago</td>
<td>204</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>How can I start to Write &amp; Improve?</td>
<td></td>
<td>2 months ago</td>
<td>203</td>
<td>0.5%</td>
<td>6%</td>
</tr>
<tr>
<td>CEFR versus IELTS</td>
<td></td>
<td>1 year ago</td>
<td>127</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>I want to write about a topic of my choice. How can I …</td>
<td></td>
<td>1 year ago</td>
<td>110</td>
<td>1%</td>
<td>42%</td>
</tr>
<tr>
<td>Using your Eigo Kyoiku voucher</td>
<td></td>
<td>1 month ago</td>
<td>85</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Sentence feedback - what is the coloured highlighting…</td>
<td></td>
<td>1 year ago</td>
<td>80</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>How does Write &amp; Improve work?</td>
<td></td>
<td>1 year ago</td>
<td>65</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Responses to FAQ feedback

- Detailed links to explanations of the CEFR
- Making the onscreen help more visible
- More pedagogical support and advice on writing
- Facebook Live broadcasts on writing for learners
- Facebook Live broadcasts on using Write & Improve in the classroom and for homework
- Walk-through tutorials (pending)
Jobs to be done!

- Lots!
- Learners want more support + advice – via social media and FAQs
- Teachers want more curatorial and editorial control
Crowdsourcing feature ideas and UX insights 2

Product improvements

Students and Teachers

Implicit feedback
Implicit feedback

Their **actions**
- Registration | completing a task | selecting a task | inviting workbook members

Their **activity**
- Number of active days / checks / sessions / session length

Their **outcomes**
- Improvement over time / they pass their exam
Primary methods

Foresight
• A/B tests, bandit tests

Hindsight
• Data mining, machine learning, statistical models
Over 100 event types captured

- subscription-creation-failed
- submitted-modify-teacher-config
- submitted-answer-retry
- submitted-answer-new-submission
- submitted-answer
- started-typing-retry
- started-typing-new-submission
- started-tour-stage
- splash-view
- shown-teacher-config-modal
- shown-referrals-modal
- shown-payments-modal
- shown-onboarding-modal
- shown-modify-teacher-config-modal
A/B testing

- Identify success criteria
- Generate hypotheses
- Create variations
- Run experiment
- Wait until data has been captured
- Pick a winning variation
Probability distribution quantifies uncertainty
Comparison quantifies confidence in difference
Bandit testing exploits expected payoff
Bandit testing examples

- How many tasks should we allow unregistered users to complete?
- Should we prompt a learner for their level during onboarding?
- How should we respond when a learner self-reports their level?
Choose your level prompt

To start improving, choose the best level for you.

Beginner  Intermediate  Advanced

No, thank you.
Learner level response survival curve
Bandit testing criteria

• Success or failure can be determined quickly
• The underlying probability of success is stable over time
• The two groups are not of interest for further analysis
• The measure of success is *really* the measure we want to optimise
Beware the Golem
Proportion "spam" submissions 2017
Proportion of per-user spam
Proportion of per-user spam
Type A examples

• Hello. I thing that this page is so good because I imprube my esford, this page bring me too me a lecton that I need more practice too write in English.

• Hello. I think is a site good because it helps you improve your English practices. I think that the miss gives this type of pages so that we improve on academic level

• ηι αβεχ, γου ωαυτ τσ δσ τσ τηε ξιεμα ωιτн με? αβεч τηε μσνιε тнατ αρε δσιυг τσ ςεε ςεε ις μσνια. ωε αρε δσιυγ τσ ςεε τηε μσνιε ις ωσρβδ ε.
Type B examples

• Abstract Accommodation forecasting data, for smart cities, can be vital to encourage people into cities by providing high-quality timely services to citizens and visitors. Accommodation forecasts will require to obtain data, accurately and legally, ...

• Thus, the overall aims and objectives are to: 1. Develop accommodation forecasting and data collection technologies 2. Develop algorithms and methods process the data and to distinguish between the types of tenants and rental properties 3. ...

• Accommodation forecasting data, for smart cities, can be vital to encourage people into cities by providing high-quality timely services to citizens and visitors. Accommodation forecasts will require to obtain data, accurately and legally, by developing a secure and anonymous ...
Survivorship bias
Highlighting prompt relevance
Primary methods

Foresight
• A/B tests, bandit tests

Hindsight
• Data mining, machine learning, statistical models
Our learners tend to improve
More writing sessions, greater improvement
Hello Henry,

Here is your Write & Improve progress report for last week.

Last week you answered 2 tasks and checked your work 2 times

You worked hard on your writing last week. Well done! Keep up the good work!
One of the tasks you answered last week did not have the recommended number of words. Remember, the more you write, the more feedback we can give you. Try to write more if you can. This is also good practice for exams. In an exam, you will have to write a certain number of words.

Your writing is improving

We can see from your writing in the last week that your writing is getting better!

You earnt 2 new awards

You have 12 awards in total. There are still 11 awards for you to get. Take a look at the awards case to see which award you can try to get next. Keep writing to keep improving!
Progress reporting improves progress
Onboarding emails provide inspiration.
Reactivation emails provide motivation
Email programme metrics are promising

- Onboarding series:
  - Open rate: 40%
  - Click through rate: 10%

- Reactivation series:
  - Open rate: 60%
  - Click through rate: 10%
Thank you!

www.writeandimprove.com

www.cost.eu http://enetcollect.eurac.edu