ELEARNING AND USER-ENGAGEMENT

Seminar vom 27. Mai 2015
Modul: Citizen Science in the Humanities: Methods and Trends

Dr Thomas Köntges
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ELEARNING

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MOOC

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MOOC

- Massive
- Open
- Online
- Course

SPOOC

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SPOOC

- Specialised
- Open
- Online
- Course

ANCIENT GEEK

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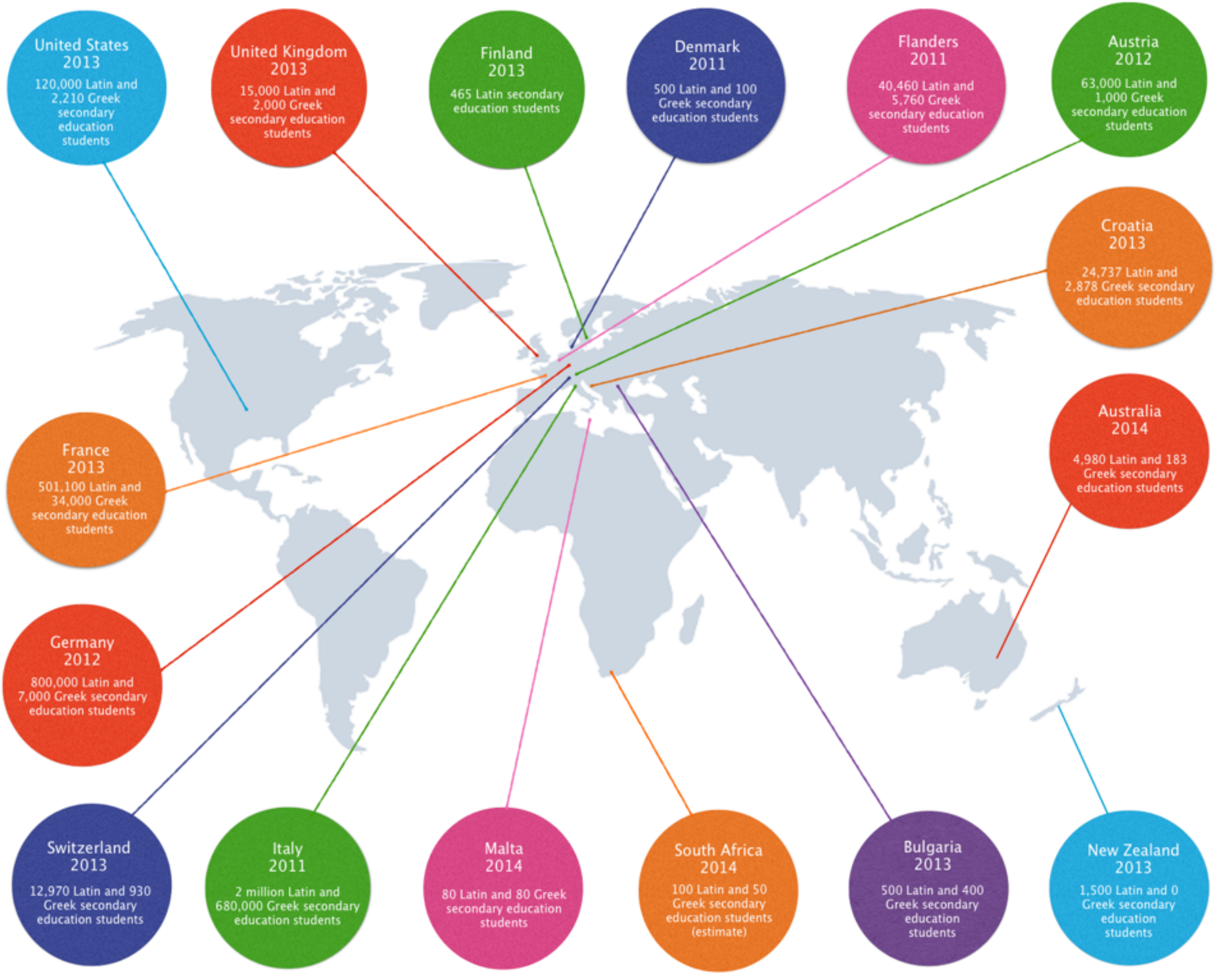
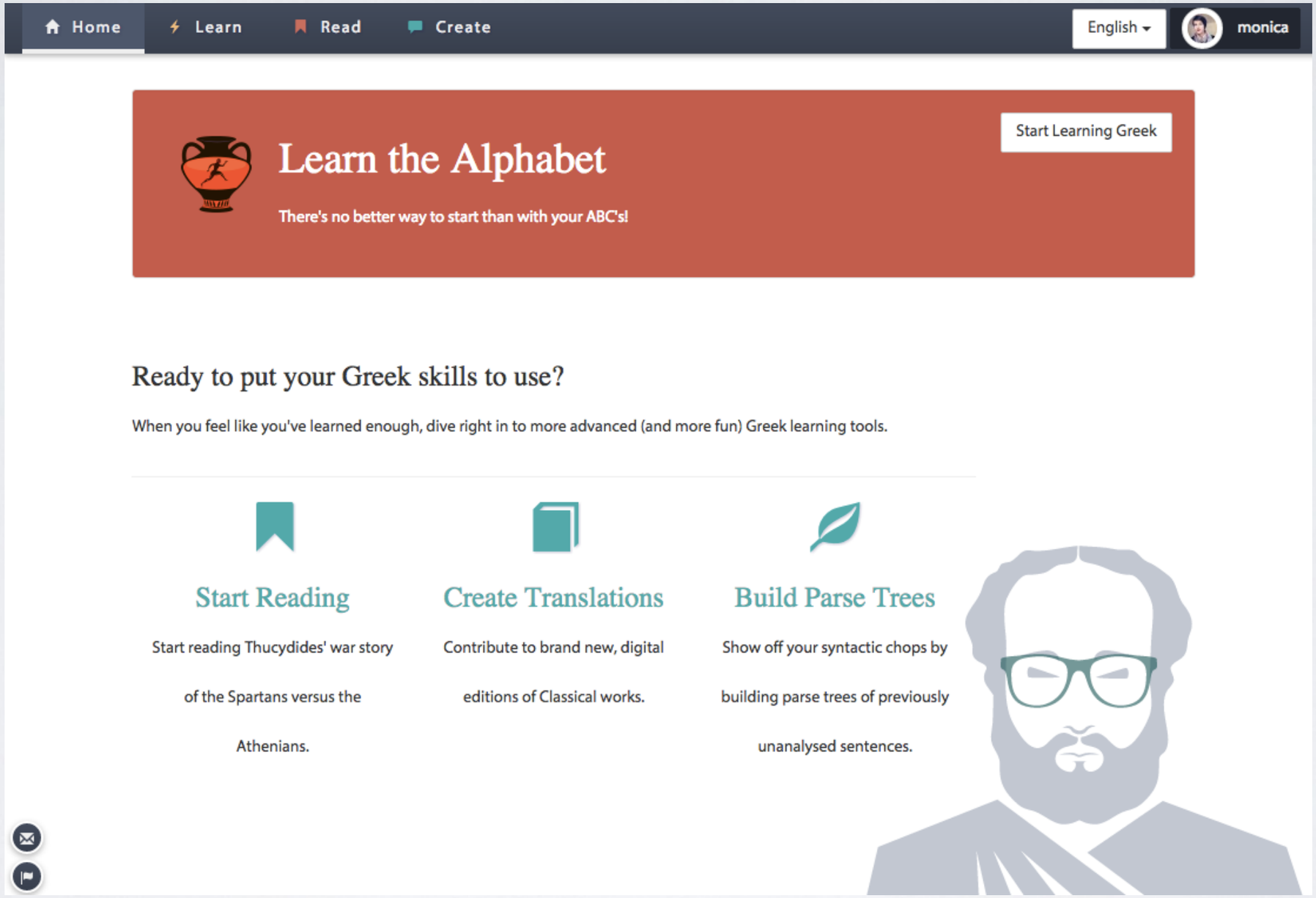

United States
2013
120,000 Latin and 2,210 Greek secondary education students
United Kingdom
2013
15,000 Latin and 2,000 Greek secondary education students
Finland
2013
465 Latin secondary education students
Denmark
2011
500 Latin and 100 Greek secondary education students
Flanders
2011
40,460 Latin and 5,760 Greek secondary education students
Austria
2012
63,000 Latin and 1,000 Greek secondary education students
Croatia
2013
24,737 Latin and 2,878 Greek secondary education students
Australia
2014
4,980 Latin and 183 Greek secondary education students
France
2013
501,100 Latin and 34,000 Greek secondary education students
Germany
2012
800,000 Latin and 7,000 Greek secondary education students
Switzerland
2013
12,970 Latin and 930 Greek secondary education students
Italy
2011
2 million Latin and 680,000 Greek secondary education students
Malta
2014
80 Latin and 80 Greek secondary education students
South Africa
2014
100 Latin and 50 Greek secondary education students (estimate)
Bulgaria
2013
500 Latin and 400 Greek secondary education students
New Zealand
2013
1,500 Latin and 0 Greek secondary education students

AUDIENCE


Home
Learn
Read
Create
English
monica
Learn the Alphabet
There's no better way to start than with your ABC's!
Start Learning Greek
Ready to put your Greek skills to use?
When you feel like you've learned enough, dive right in to more advanced (and more fun) Greek learning tools.
Start Reading
Start reading Thucydides' war story of the Spartans versus the Athenians.
Create Translations
Contribute to brand new, digital editions of Classical works.
Build Parse Trees
Show off your syntactic chops by building parse trees of previously unanalysed sentences.

Introduction

Data:

Ancient Greek Primary Sources,

&

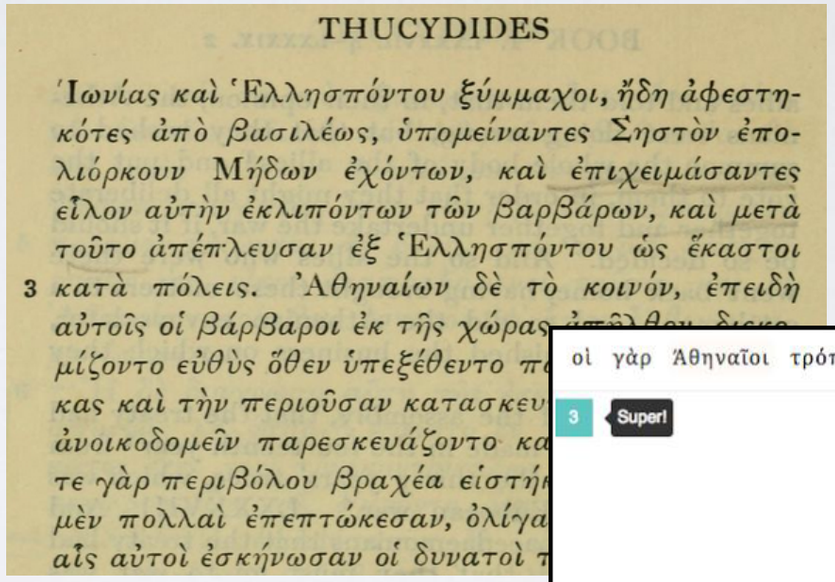
Dynamic Exercises

Methodologies:

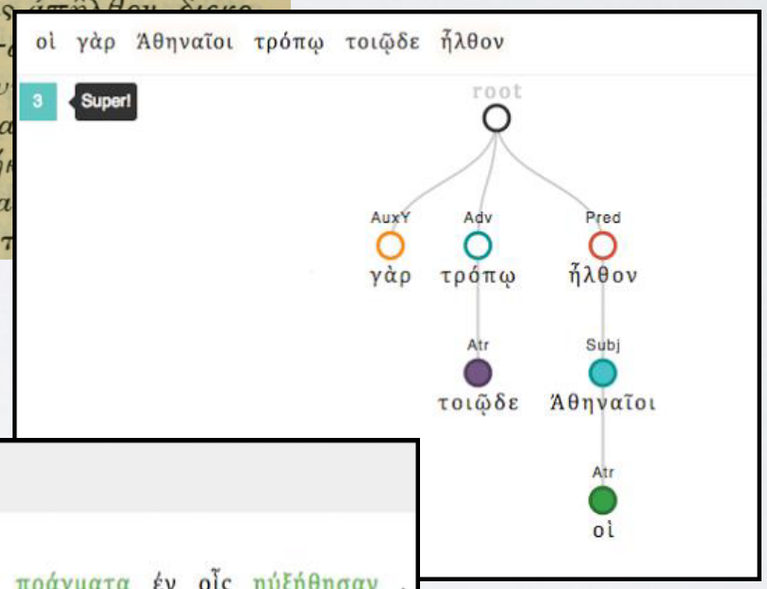
Parse Trees

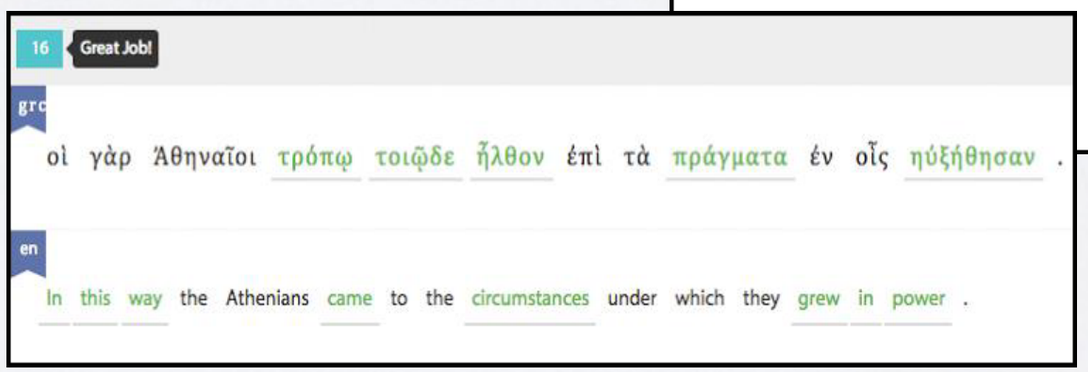
&

Translation Alignment


THUCYDIDES

Ἰωνίας καὶ Ἑλλησπόντου ξύμμαχοι, ἤδη ἀφεστη-
κότες ἀπὸ βασιλέως, ὑπομείναντες Σηστὸν ἐπο-
λιόρκουν Μήδων ἐχόντων, καὶ ἐπιχειμάσαντες
εἷλον αὐτὴν ἐκλιπόντων τῶν βαρβάρων, καὶ μετὰ
τοῦτο ἀπέπλευσαν ἐξ Ἑλλησπόντου ὡς ἕκαστοι
3 κατὰ πόλεις. Ἀθηναίων δὲ τὸ κοινόν, ἐπειδὴ
αὐτοῖς οἱ βάρβαροι ἐκ τῆς χώρας
μίζοντο εὐθὺς ὅθεν ὑπεξέθεντο
κας καὶ τὴν περιοῦσαν κατασκευ
ἀνοικοδομεῖν παρεσκευάζοντο κα
τε γὰρ περιβόλου βραχέα εἱστήκ
μὲν πολλαὶ ἐπεπτώκεσαν, ὀλίγα
αἷς αὐτοὶ ἐσκήνωσαν οἱ δυνατοὶ τ





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Alpha

like *a*rachnid

ἀράχνη (SPIDER)

Beta

like *b*ook

βίβλος (BOOK)

Gamma

like *g*raphic

γράφω (TO WRITE)

Epsilon

like *e*nergy

ἔργον (WORK)

Zeta

like *z*isdom

ζῷον (ANIMAL)

Eta

like *E*cho

ἦχος (SOUND)

Iota

Kappa

Lambda

SELF-ORGANISED LEARNING

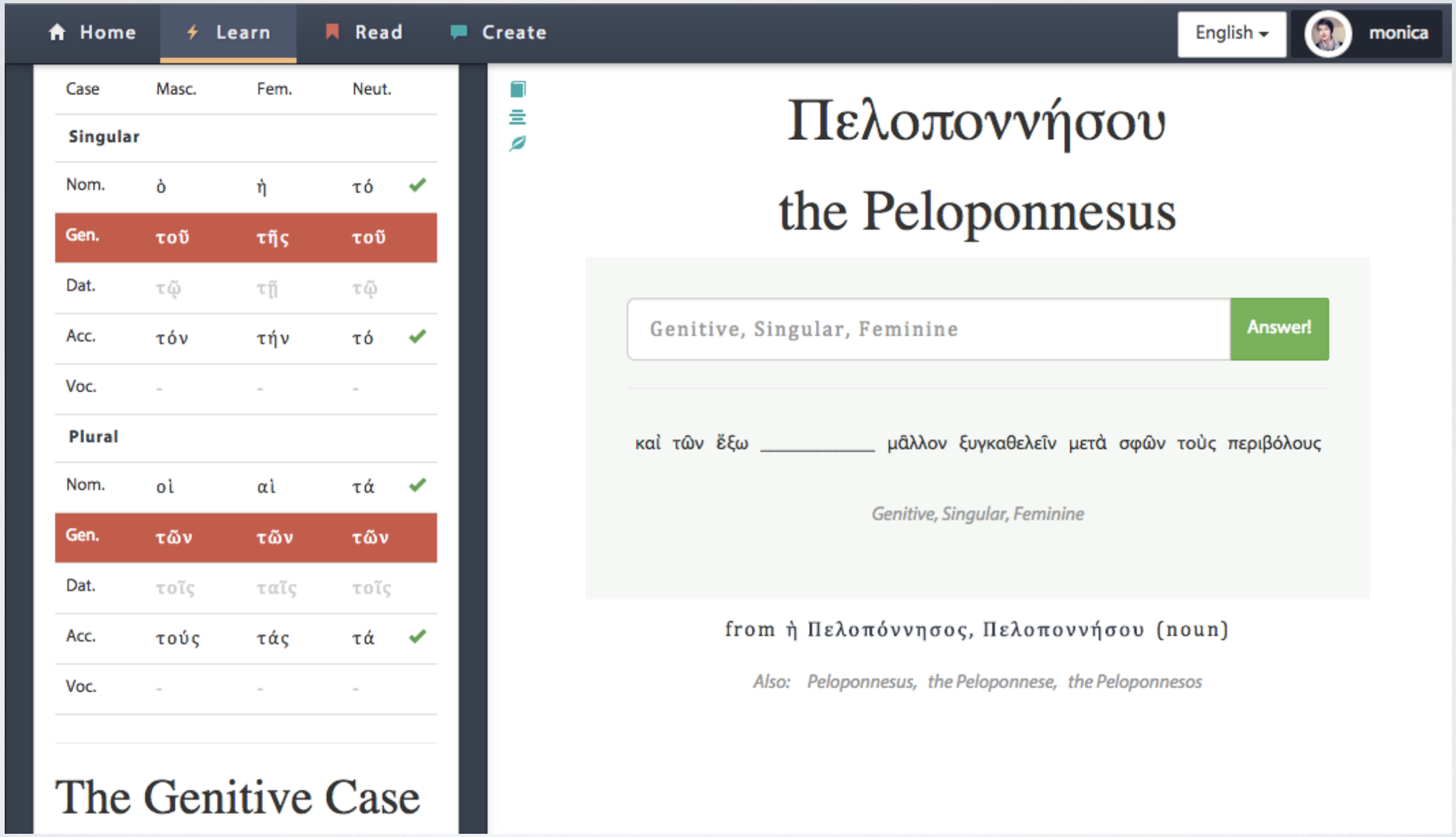
BACKGROUND

- Historical languages tend to focus on grammar and rote memorization, which students tend to struggle with.

BACKGROUND

- Instead focus on specific instances in the context of the source text:
  - Draw examples of grammatical concepts from the text
  - Provide immediate feedback
  - Interactive learning by building parse trees and aligning translations

PERSONALISED HELP



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Query - phaidra on postgres@127.0.0.1:5432 *

phaidra on postgres@127.0.0.1:5432

SQL Editor | Graphical Query Builder

Previous queries | Delete | Delete All

Scratch pad

```
SELECT ref, query, title FROM app_grammar;
```

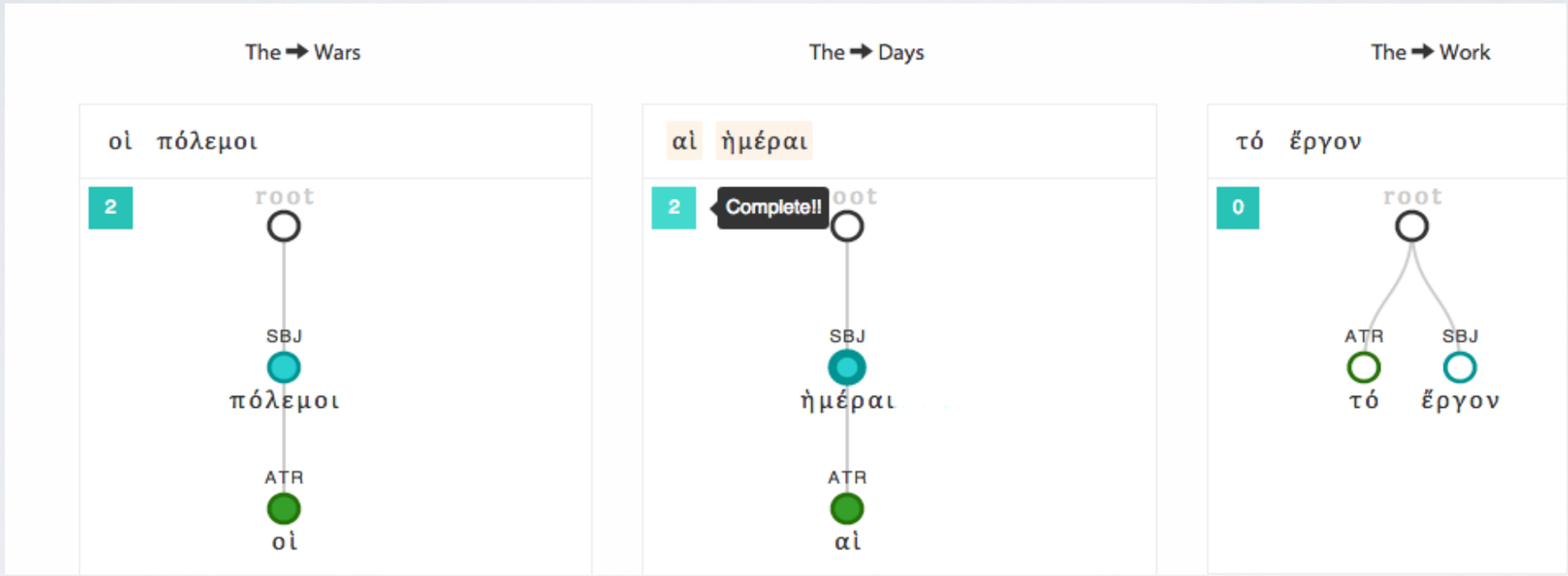
Data Output | Explain | Messages | History

	ref character varying(10)	query character varying(200)	title character varying(200)
10	s149#b	lang=grc	Reading Greek - Circumflex Accents
11	s149#c	lang=grc	Reading Greek - Grave Accents
12	s188	pos=punct	Reading Greek - Marks of Punctuation
13	s194	pos=noun	Nouns in Ancient Greek - Introduction
14	s195	pos=noun	Nouns in Ancient Greek - Number
15	s196	pos=noun	Nouns in Ancient Greek - Gender
16	s201	pos=noun	Nouns in Ancient Greek - Case
17	s216	pos=noun&posAdd=h_hs	The Alpha or First Declension
18	s217#a	pos=noun&gender=fem&lemma__endswith=α&posAdd__contains=h_hs	First Declension Nouns - Feminine (α-stem)
19	s217#c	pos=noun&gender=fem&lemma__endswith=η&posAdd__contains=h_hs	First Declension Nouns - Feminine (η-stem)
20	s222	pos=noun&gender=masc&posAdd__contains=hs_ou	First Declension Nouns - Masculine (ης-stem)
21	s228#a	pos=noun&gender=masc&posAdd__contains=os_ou	Second Declension Nouns - Masculine (ος-stem)
22	s228#b	pos=noun&gender=neut&posAdd__contains=os_ou	Second Declension Nouns - Neuter (ον-stem)
23	s232	pos=noun&gender=fem&posAdd__contains=os_ou	Second Declension Nouns - Feminine
24	s255#2	pos=noun&posAdd__contains=is_idos	Third Declension Nouns - Masculine and Feminine
25	s255#3	pos=noun&gender=neut&posAdd__contains=ma_matos	Third Declension Nouns - Neuter
26	s268	pos=noun&lemma__endswith=&posAdd__contains=is_ews	Third Declension Nouns - Stems in -ι and -υ
27	s275	pos=noun&lemma__endswith=&posAdd__contains=eus_ews	Third Declension Nouns - Stems in -ευ, -αυ, -ου
28	s286	pos=adj&posAdd__contains=os_h_on	Adjectives - Three-termination
29	s288	pos=adj&posAdd__contains=os_on	Adjectives - Two-termination
30	s299	pos=adj&posAdd__contains=as_asa_an	Adjectives - Three-termination in the Third Declension
31	s332	pos=article	Articles Declension
32	s343	pos=adverb	Adverbs

OK. | Unix | Ln 1, Col 1, Ch 1 | 61 rows. | 204 ms

Data, Tools & Localization

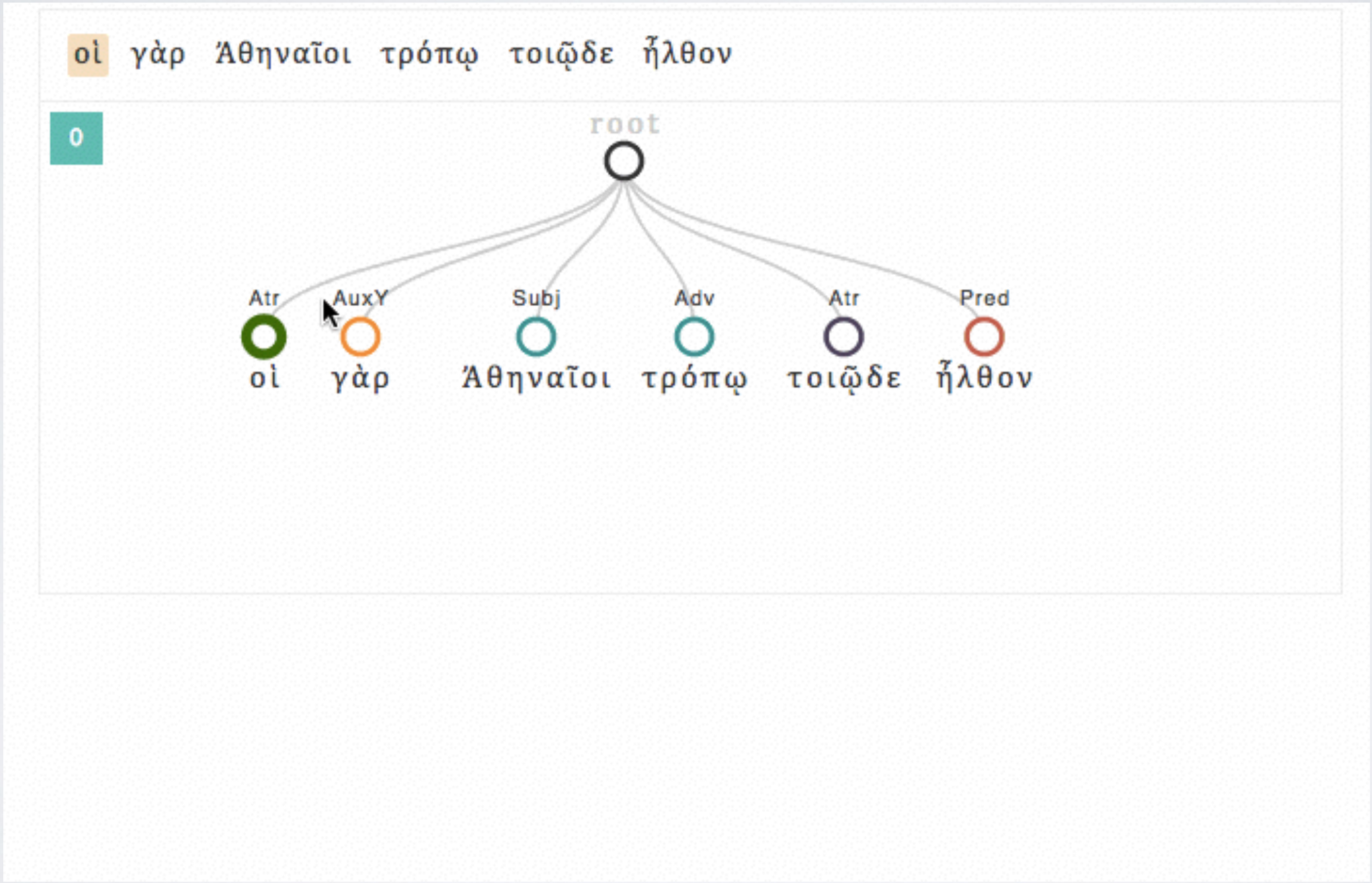
Dependency Parse Tree Tool



Example: Learners put the various definite articles ("the") with different genders under the noun they agree with.

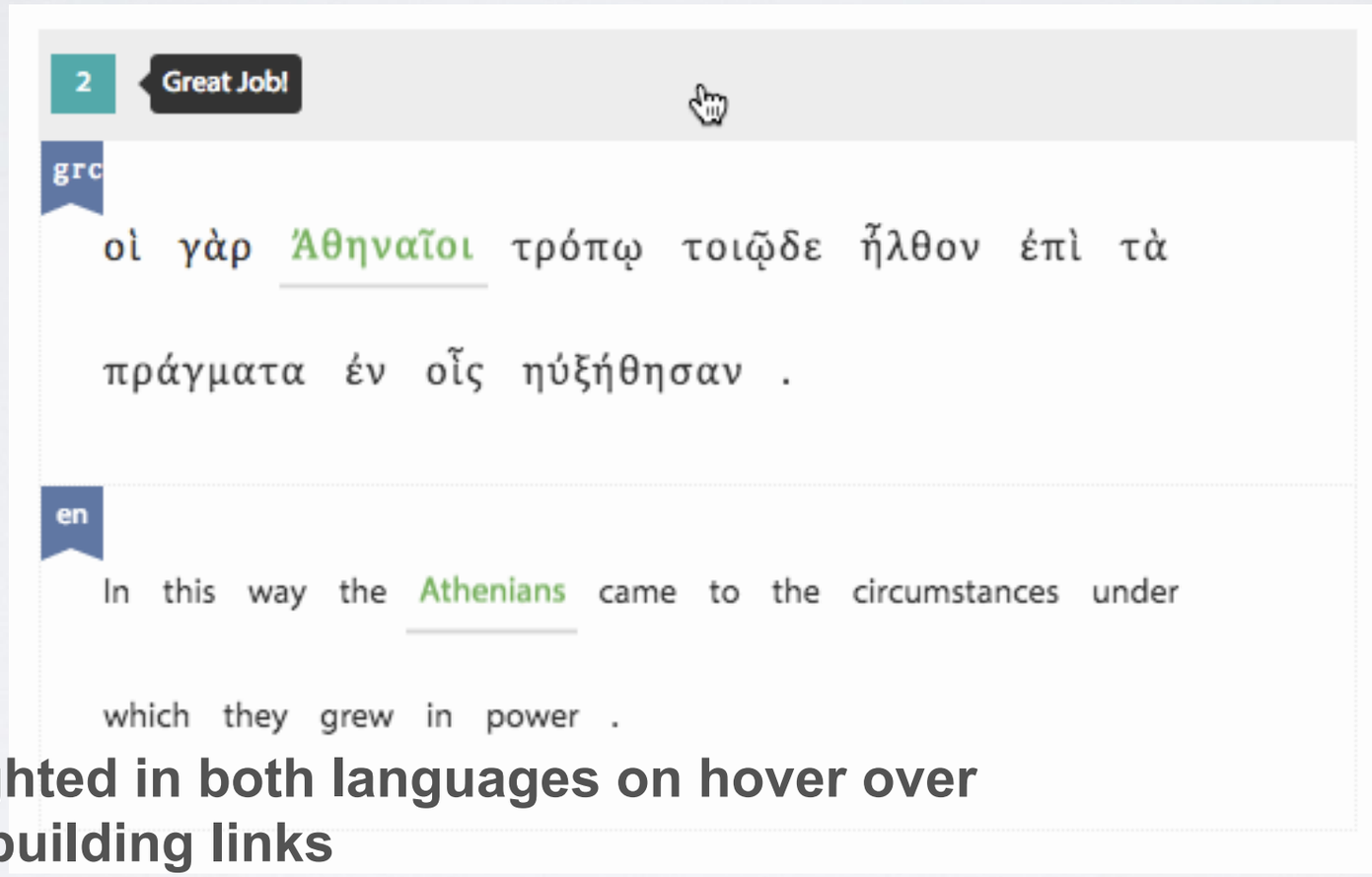
On the sentence scale, leaners can build such trees in order to demonstrate understanding of the syntax and relationships between words.

DEPENDENCY PARSE TOOL



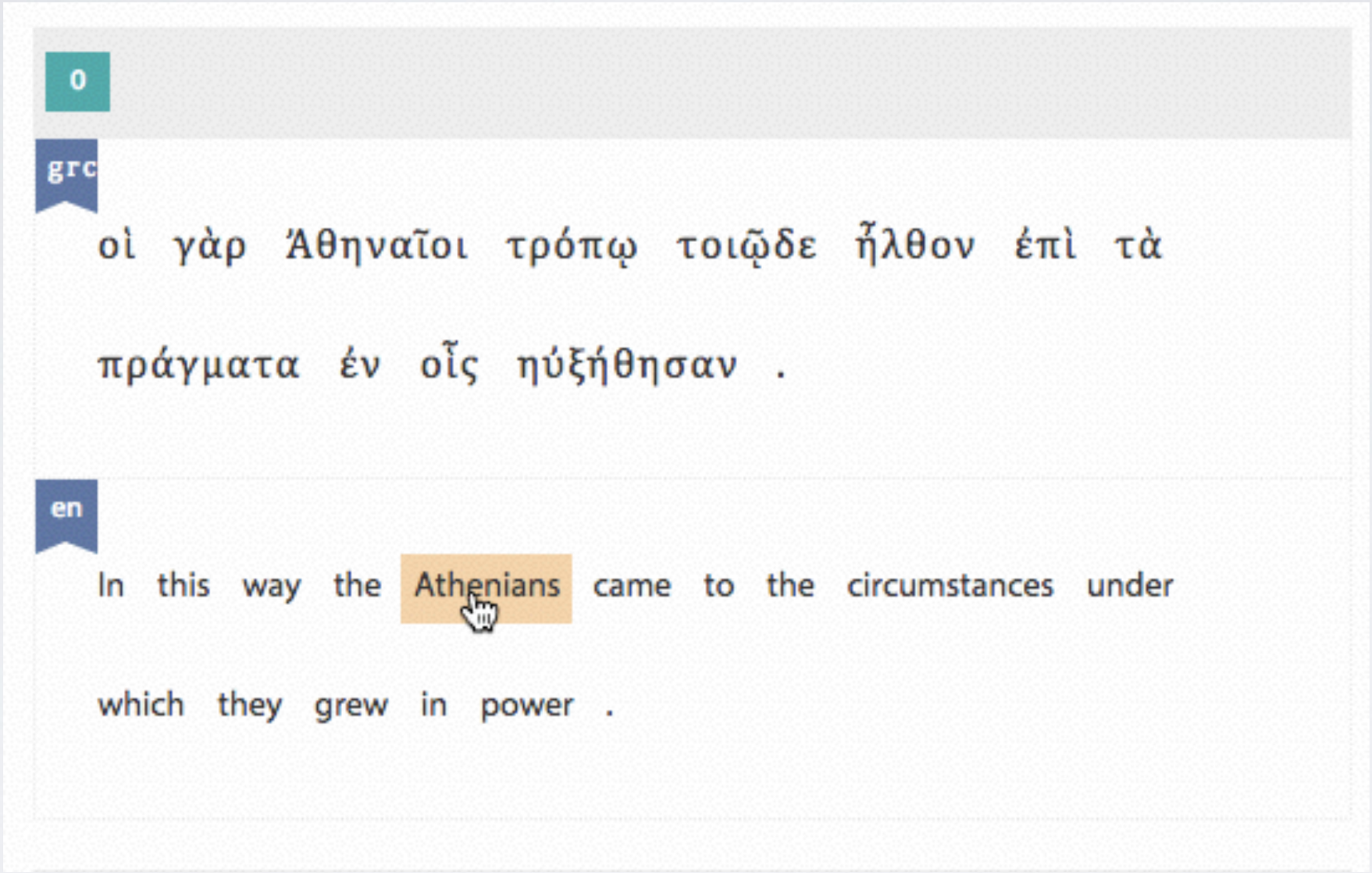
Data, Tools & Localization

Alignment Tool



Highlighted in both languages on hover over
Helps building links
Supports learners

ALIGNMENT TOOL



INTERFACE AND DATA

Home » App » **Languages**

Add language

--------- Go 0 of 6 selected

	Language name (english)	Language name	Language code	Shortcode	Text direction	Modern
☐	Italian	Italiano	it-it	it	Left-to-right	✓
☐	Latin	Lingua Latina	latin	lat	Left-to-right	⛔
☐	German	Deutsch	de-DE	de	Left-to-right	✓
☐	Farsi	فارسی	fa-IR	fa	Right-to-left	✓
☐	Ancient Greek	Ἑλληνική	greek	grc	Left-to-right	⛔
☐	English	English	en-US	en	Left-to-right	✓

INTERFACE AND DATA

Home » App » **Languages**

Add language

--------- Go 0 of 6 selected

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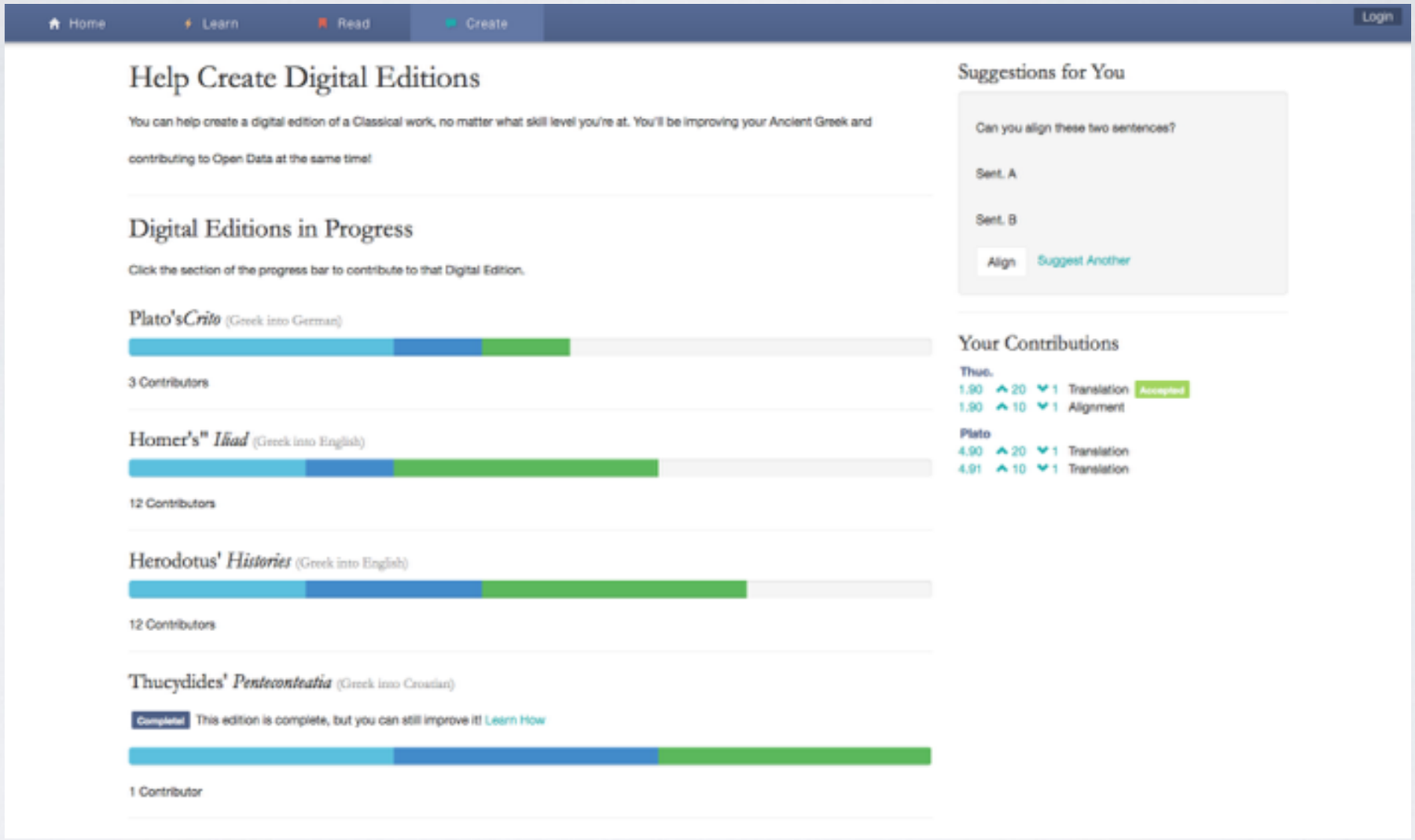
☐	Farsi	فارسی	fa-IR	fa	Right-to-left	✓
☐	Ancient Greek	Ἑλληνική	greek	grc	Left-to-right	⛔
☐	English	English	en-US	en	Left-to-right	✓

TRACKED PROGRESS



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User-Testing

The theory:

- Studies have shown that voluntary online courses have low retention rates (Kolowich, 2013)
- Motivation = Intensity : Persistence (Kanfer & Ackerman, 1989)
- There is a strong correlation between learning success and effort (Schiefele et. al, 1995)

So, tasks should be designed by prioritizing engagement!

The practice:

We try to achieve: user effort over a long period of time

We set-up a test to observe:

User persistence across two different methods

User-Testing

Traditional Method

οἱ γὰρ Ἀθηναῖοι τρόπῳ τοιῷδε ἦλθον.

1. Which Greek word does **οἱ** agree with in case, number, and gender?

- γὰρ
- **Ἀθηναῖοι**
- τρόπῳ
- τοιῷδε
- ἦλθον

2. Which Greek word does **τοιῷδε** agree with in case, number, and gender?

- οἱ
- γὰρ
- Ἀθηναῖοι
- τρόπῳ

Glossary

Ἀθηναῖοι	Athenians
γὰρ	for
ἦλθον	came
οἱ	the
τρόπῳ τοιῷδε	in this way

Multiple Choice

οἱ γὰρ Ἀθηναῖοι τρόπῳ τοιῷδε ἦλθον.

For the Athenians came

Submit Translation

Gloss

Ἀθηναῖοι	Athenians
γὰρ	for
ἦλθον	came
οἱ	the
τρόπῳ τοιῷδε	in this way

Translate a Sentence

User-Testing

Traditional Method

οἱ γὰρ Ἀθηναῖοι τρόπῳ τοιῷδε ἦλθον.

1. Which Greek word does **οἱ** agree with in case, number, and gender?

- γὰρ
- **Ἀθηναῖοι**
- τρόπῳ
- τοιῷδε
- ἦλθον

2. Which Greek word does **τοιῷδε** agree with in case, number, and gender?

- οἱ
- γὰρ
- Ἀθηναῖοι
- τρόπῳ

Glossary

Ἀθηναῖοι	Athenians
γὰρ	for
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Multiple Choice

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For the Athenians came

Submit Translation

Gloss

Ἀθηναῖοι	Athenians
γὰρ	for
ἦλθον	came
οἱ	the
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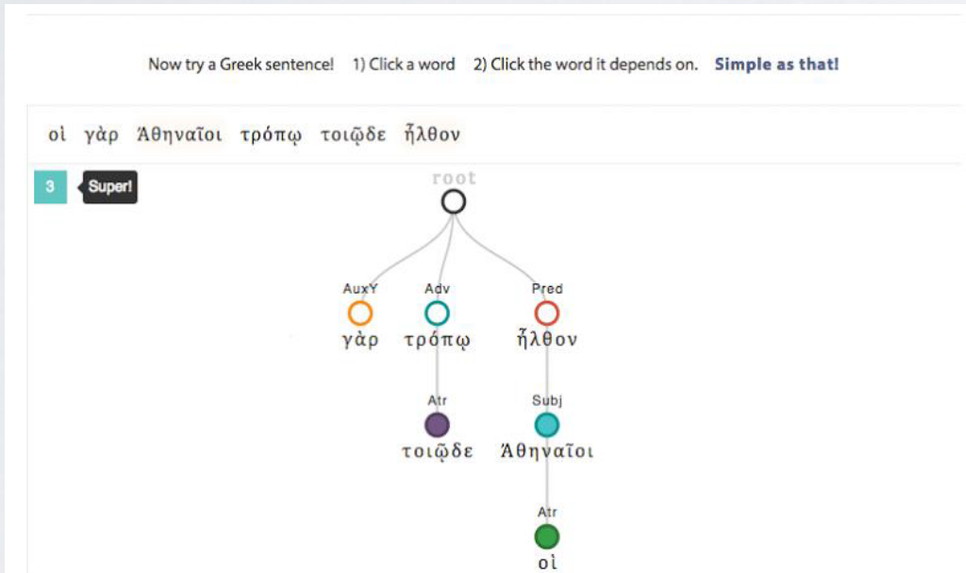
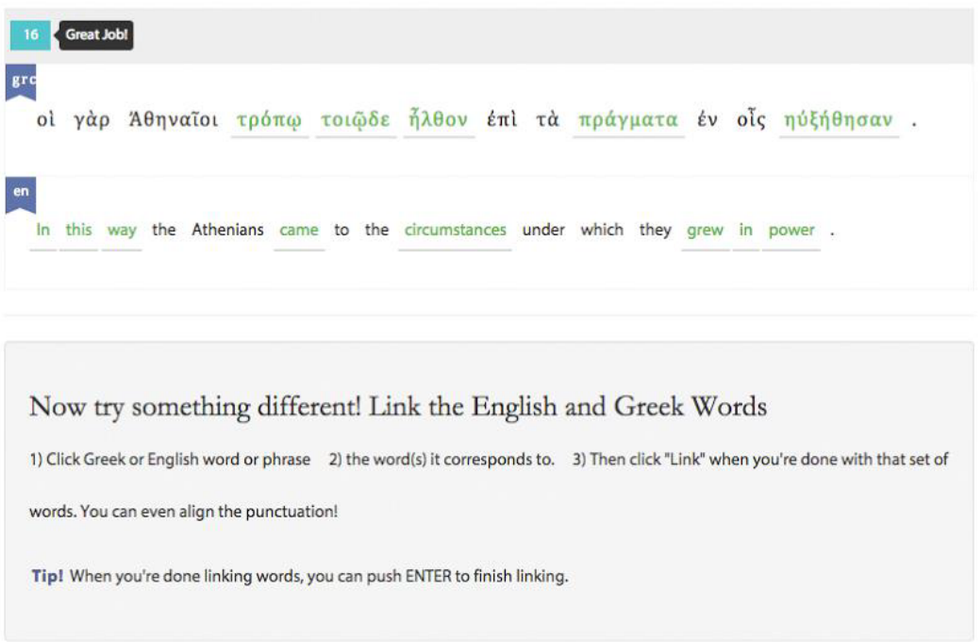
Translate a Sentence

User-Testing

AncientGeek Method



Build a Parse Tree



Align a Sentence

User-Testing

Set-up:

- Tests were assigned randomly to anonymous users
- Short survey was provided for more info on the users' backgrounds
- Users were encouraged to abandon the test whenever they wanted to

Our aim:

- Which method retained the most users?
- How long did the average user take to complete a task?

User-Testing

Submission Contribution: we collected session-based submissions

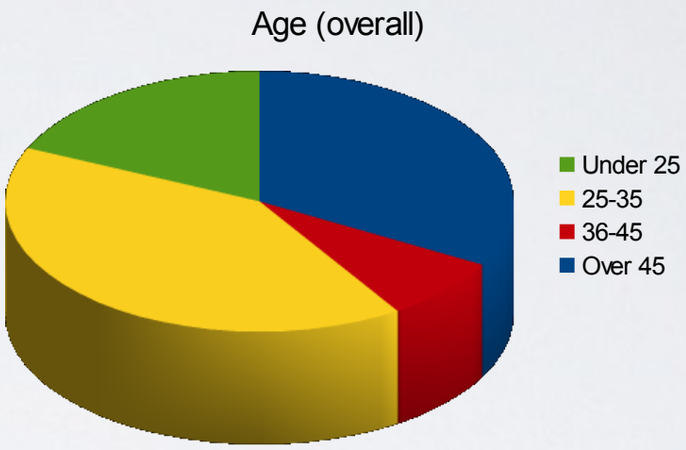
Distribution: 262 testers (216 traceable) worldwide

Map data © 2014 Google, INEGI. Service provided by http://geobaza.ru/try/. Accessed: 2 Sept. 2014.

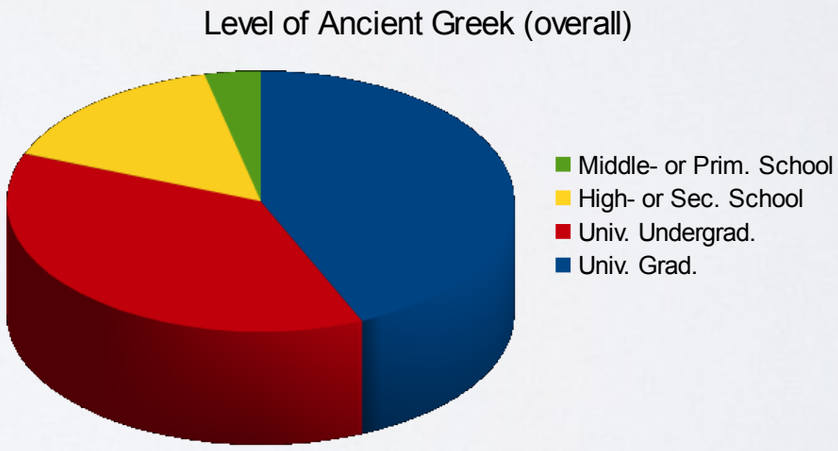
User-Testing

Survey:

The larger part of them were between the ages of 25 and 35 (41%)



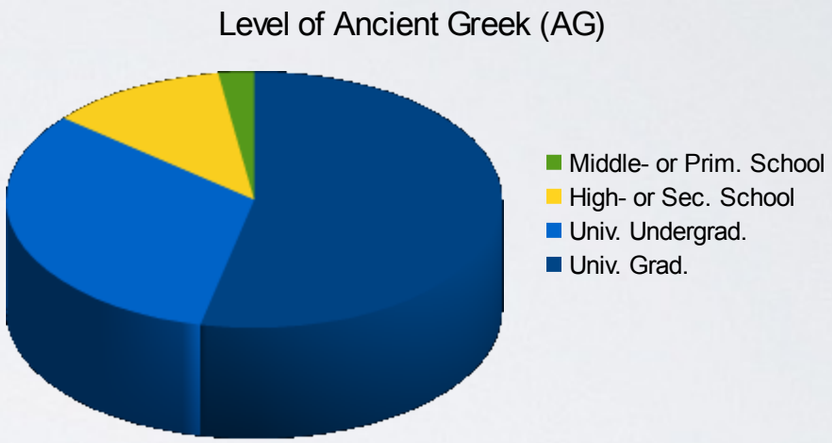
The majority of users had taken Greek at university (81%)



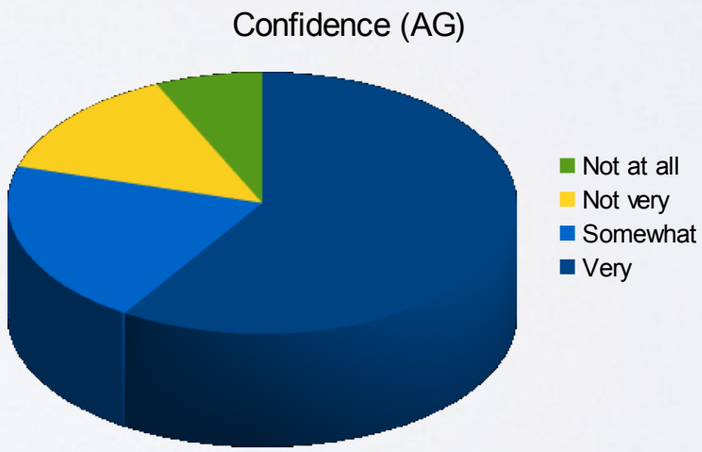
User-Testing

Survey - initial conclusions:

AncientGeek is better suited to university undergraduate and postgraduate levels (83%)

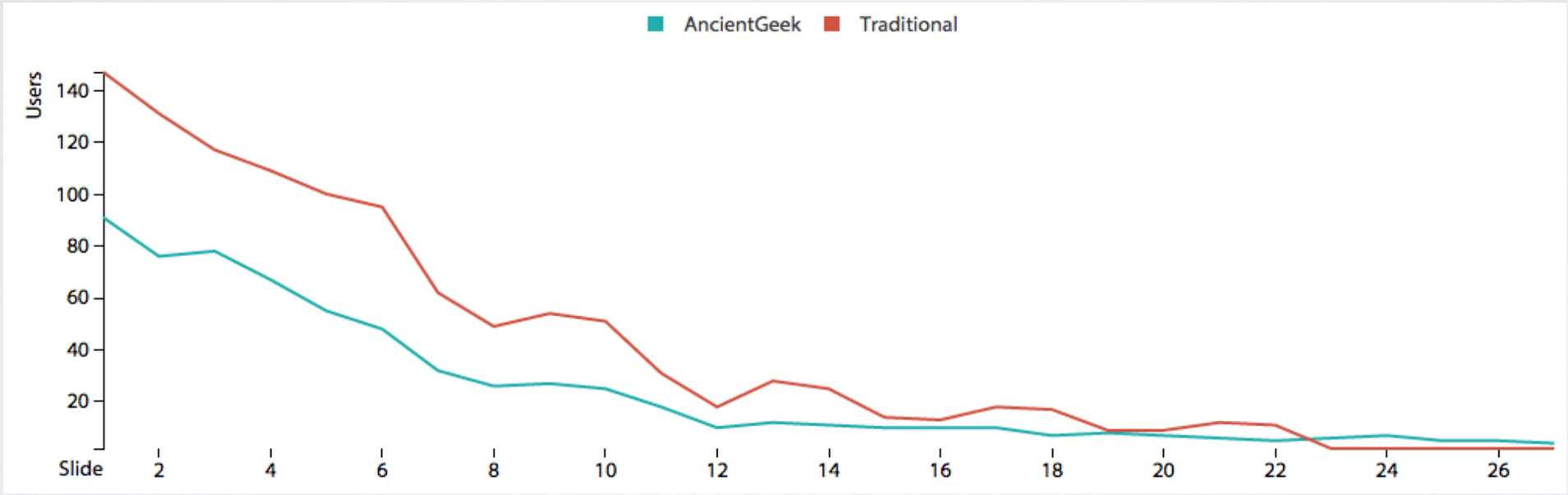


79.5% of AncientGeek testers felt confident while navigating the application



User-Testing

Results Retention:

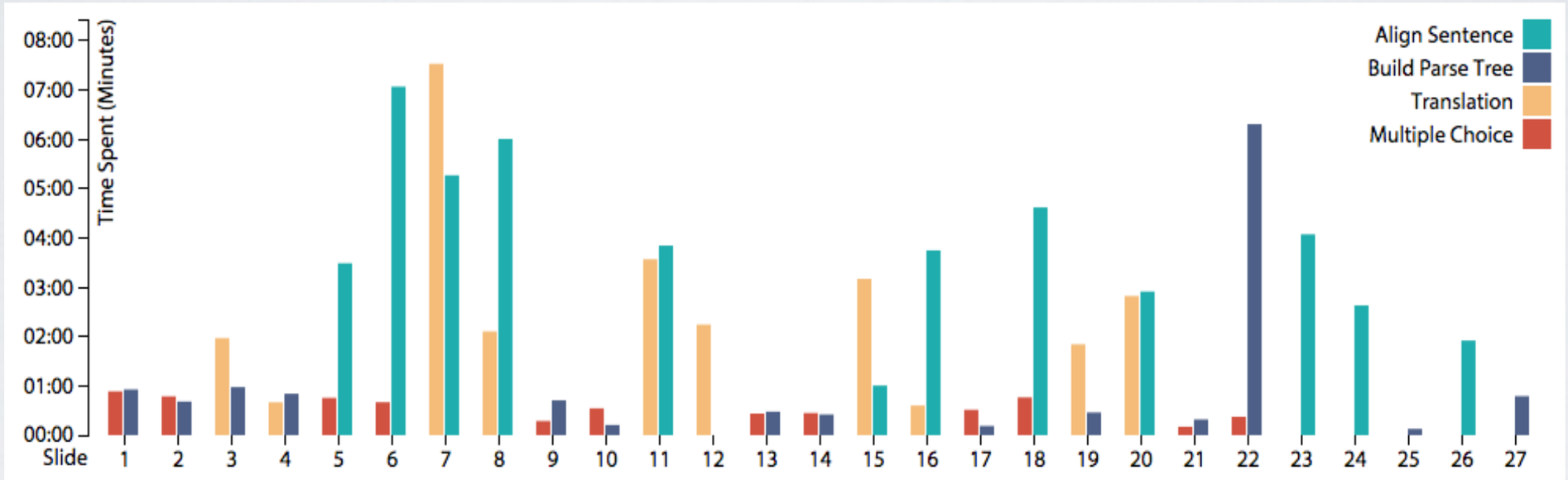


The number of AncientGeek users decreased more moderately (av. change -9.8% from slide to slide) than those working with the Traditional Method (-11.4%)

...showing that the users of AncientGeek were more persistent than those of the Traditional Method

User-Testing

Results Duration:



The average user spent 89 sec. on treebanking & 4:42 minutes on alignment
The average user spent 68 sec. on multiple choice & 3:18 minutes on translating

Users remained engaged even though it takes longer to perform a task in AncientGeek than a traditional multiple choice exercise

User-Testing

What we got from this

- AncientGeek tasks are more engaging than Traditional Method exercises
- Despite initial trepidation, users are willing to adopt innovative methods to perform familiar tasks

Conclusion & Forecast

AncientGeek

- Allows users to become instantly familiar with primary source texts
- The interface design and localization make it accessible to a wide audience
- Our user testing proved widespread interest and confirmed our novel approach resonates with potential end users

Next Steps

- Localization of the interface and the data (for more languages)
- Addition of primary source texts data

QUESTIONS?

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HOMEWORK

- 20 minute presentation of a CitizenScience Project of your choice.