

# LARA: THE LEARNING AND READING ASSISTANT



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Learning with

**Crowdsourcing Techniques** 

# **OUTLINE**

- Background on COLLECTOR & LARA: what it is, how it works (Hanieh)
- Pedagogy and user testing: A case study of LARA for Icelandic (Branislav)

# BACKGROUND

### **CALLECTOR**

- Three year project funded by Swiss National Science Foundation
  - (Apr 2018 Dec 2021)
- Linked to enetCollect (CA16105) under SNSF COST funding
- Top-level goal: social network for crowdsourcing CALL content
- Two kinds of content: speech and <u>text</u>



- Subproject started Q3 2018
- Informal international collaboration: University of Iceland, Ferdowsi University of Mashhad, Samara National Research University, others!
- Top-level goal: text content
  - to help teachers create specific reading material
  - to help students learn a language by reading

# **DEMO: PETER RABBIT**



# LARA FUNCTIONALITY

"Personalised concordance"

Mr. McGregor was on his hands and knees planting out young cabbages, but he jumped up and ran after Peter, waving a rake and calling out,

'Stop thief!'



Peter was most dreadfully frightened; he rushed all over the garden, for he had forgotten the way back to the gate. (1)

He lost one of his shoes among the cabbages, and the other shoe

#### run

#### **Translation**

- ← 'Now run along, and don't get into mix hief. I am going ov..' 📢
- ← But Peter, who was very naughty, **ran** straight away to M. McGrego 's garden, and squeezed under the gate! 🕬
- ← Mr. McGregor was on his hands and knees planting out young cabba tes, but he jumped up and ran after Peter, waving a rake and calling out, 'Stop thie!' □
- ← After losing them, he **ran** on four legs and went faster so that I think he might have got away altogether if he had not unfortunately **run** into a goosebe ry net, and got caught by the large buttons on his jacket. It was a blue jacket with b ass buttons, quite new. <a>Q</a>
- ← An old mouse was **running** in and out over the stone doorstep, carry ng peas and beans to her family in the wood. ♠
- ← Peter got down very quietly off the wheelbarrow; and started **running** as fast as he could go, along a straight walk behind some black-currant bushes. <a href="#">Q</a>)
- ← Peter never stopped **running** or looked behind him till he got home to the big fir-tree. <a href="#">Q</a> <a href="#">(<a href="#">N</a>)</a>

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## **EXISTING LARA CONTENT: ENGLISH**

Mr. McGregor was on his hands and knees planting out young cabbages, but he jumped up and ran after Peter, waving a rake and calling out,

'Stop thief!' ◄0



Peter was most dreadfully frightened; he rushed all over the garden, for he had forgotten the way back to the gate.

He lost one of his shoes among the cabbages, and the other shoe amongst the potatoes.

### rabbit

#### Translation

- ← Once upon a time there were four little Rabbits, and their names were-- Flopsy, Mopsy, Cotton-tail, and Peter. ■
- ← 'Now my dears,' said old Mrs. Rabbit one morning, 'you may go into the fields or down the lane, but don't go into Mr. McGregor's garden: your Father had an accident there; he was put in a pie by Mrs. McGregor.' ■0
- ← Then old Mrs. Rabbit took a basket and her umbrella, and went through the wood to the baker's. She bought a loaf of brown bread and five currant buns. ■
- ← He found a door in a wall; but it was locked, and there was no room for a fat little **rabbit** to squeeze underneath. ◀∅
- ← He was so tired that he flopped down upon the nice soft sand on the floor of the rabbit-hole and shut his eyes. ◀0

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# EXISTING LARA CONTENT: ICELANDIC

segir hún

í símann:

"Tína er komin,

þá getur þú sjálf

sagt henni þetta." 🕪



Mamma lítur á Tínu:

"Komdu, Tína.

### sjálfur

#### **Translation: English**

#### Grammar information

- ← Þegar mamma sér Tínu segir hún í símann: "Tína er komin, þá getur þú sjálf sagt henni þetta." ■0
- ← En Rósa finnur banana. Hún getur sjálf náð hýðinu af. Hún fær sér nokkra bita. Svo makar hún banananum á hnéð á sér. 🐠
- ← En Tína sér hvað er að. Hún er oft bílveik sjálf. 🐠

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### EXISTING LARA CONTENT: JAPANESE

100万年もしなないねこがいました。

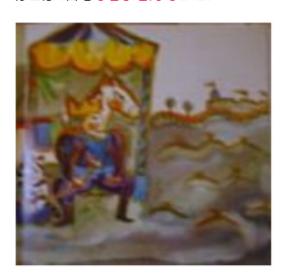
100万回も しんで 100万回も 生きたのです。

りっぱな とらねこでした。

100万人の人が そのねこをかわいがり

100万人の人が そのねこがしんだときなきました。

ねこは1回もなきませんでした。



### なきました

- ← 100万人の人が そのねこをかわいがり 100万人の人が そのねこがしんだとき**なきました**。
- ← 王さまは たたかいの まっさいちゅうに ねこを だいて **なきました**。
- ← 船のりは ぬれた ぞうきんのようになった ねこを だいて 大きな声で **なきました**。 そして遠い みなと町のこうえんの木の下にねこ をうめました。
- ← 手品つかいは まっぷたつに なってしまったねこを 両手にぶらさげて大 きな声で**なきました**。
- → よぼよぼの おばあさんは よぼよぼの しんだねこを だいて 一日じゅう なきました。
- $\leftarrow$  ぐらぐらの頭に なってしまった ねこを だいて 女の子は 一日じゅう なきました。 そして ねこを にわの 木の下に うめました。
- ← ねこは はじめてなきました。 夜になって 朝になって また夜になって 朝になって ねこは100万回もなきました。

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# **EXISTING LARA CONTENT: RUSSIAN**

Но сразу за парником с огурцами, он наткнулся на самого мистера Мак-Грегора.



Мистер Мак-Грегор стоял на коленях и сажал молодую капусту, но он тут же вскочил и помчался за Питером, размахивая своими граблями , с криком: «Держи вора!»



### наткнулся

- ← Но сразу за парником с огурцами, он наткнулся на самого мистера Мак-Грегора.
- ← Потеряв их, он побежал на четырех ногах и стал двигаться быстрее, так что я думаю, что он мог бы вообще сбежать, если бы, к сожалению, не наткнулся на крыжовник и зацепился большими пуговицами на куртке. Это был синий пиджак с медными пуговицами, совсем новый.

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## **EXISTING LARA CONTENT: FARSI**

### كلبه

- → یک روز بزیزقندی برای خرید از کلبه بیرون میرفت. الله بیرون میرفت.
- → آفا گرگه یشت درختها بود و کلبهی بزیز قندی را نماسا میکرد. «ا
  - - 🛶 کمی که گذشت آفا گرگه به طرف کلبه رفت و در زد. 🕪
  - → به طرف کلبه دوید و دست هایش را از زیر در نشان داد . (الله علی الله ع
    - → و به سرعت برق و باد به کلبه مامان بزی برگشت. (الله علی برگشت).
      - → . آفا گرگه به داخل کلیه برید الله ...

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بزیز قندی بچه ها را بوسید و خداحافظی کرد و رفت . 🕪

آفا گرگه بشت درختها بود و کلبهی بزیزفندی را نماشا میکرد.

الله وقتی بزیزوندی از کلبه بیرون رفت آفا گرگه خوشحال شد. اله او برای ناهار سه بزغاله ی خوشمزه را میخواست.



بچهها پرسیدند: «ا «کیه کیه در میزنه؟» «ا

گرگه گفت: ◊◄ «منم منم مادرتون. ◊◄ مادر مهريونتون. ◊◄ غذا أوردم براتون. ◊◄ درو باز كنين .» ◊◄

# CREATING LARA CONTENT

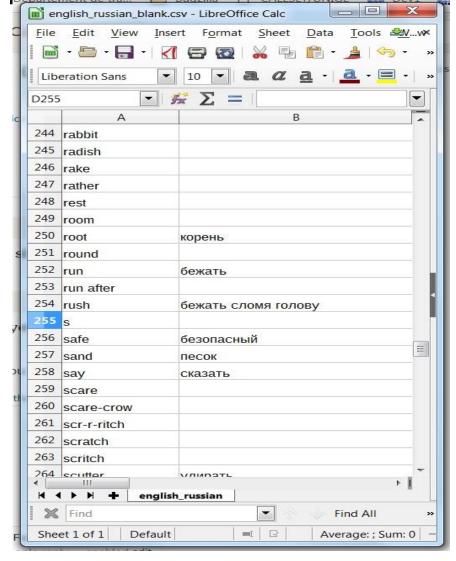
- Tagging
- Translation
- Recording

### CREATING LARA CONTENT: TAGGING

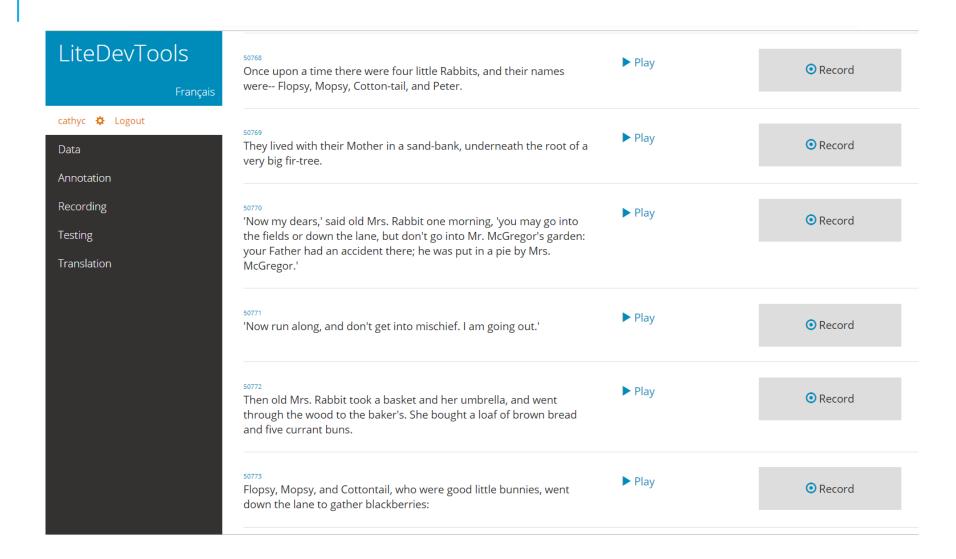
```
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
peter_rabbit.txt 🔀
  1 <h1>The Tale of Peter#Peter# Rabbit</h1>
  3 <h2>Beatrix Potter</h2>||
    @Once upon a time@ there were#be# four little Rabbits#rabbit#, and their names#name#
  6 were#be#--
              Flopsy#Flopsy#,
           Mopsy#Mopsy#,
       Cotton-tail#Cottontail#,
    and Peter#Peter#. | |
 11
    They lived#live# with their Mother in a sand-|bank, underneath the root of a
 13 very big fir-|tree.||
 14 <img src="01VeryBigFirTree.jpg" width="271" height="317" alt="Four little rabbits"/>
    'Now my dears#dear#,' said#say# old Mrs. Rabbit one morning, 'you may go into
 16 the fields or down the lane, but don't go into Mr. McGregor#McGregor#|'s garden:
   your Father had #have # an accident there; he was #be # put in a pie by Mrs.
 18 McGregor#McGregor#.'||
 19 <imq src="02YourFatherHadAnAccident.jpg" width="279" height="302" alt="Mrs Rabbit
    and the good little bunnies"/>
```

Normal text file | length: 9,383 | lines: 137 | Ln: 10 | Col: 20 | Sel: 0 | 0 | Windows (CR LF) | UTF-8 | INS

CREATING LARA CONTENT: TRANSLATION



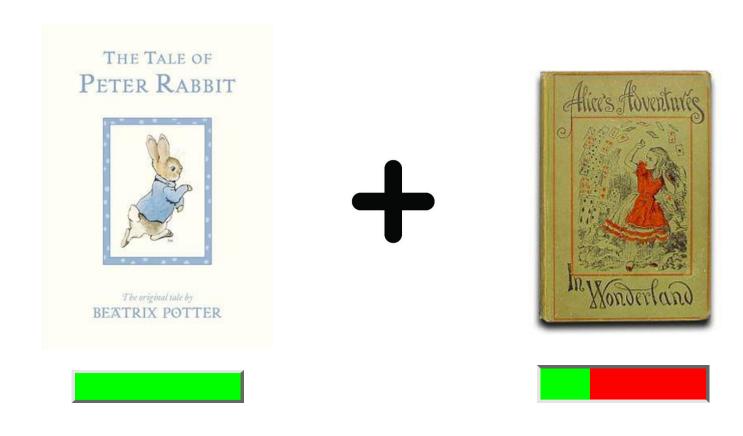
## CREATING LARA CONTENT: RECORDING



# **COMING SOON: THE LARA PORTAL**

- The first step in creating CALLector social network
- Easier way for teachers to create LARA content
- Personalized LARA pages for students' reading history
- Will be available in the middle of April.

# DISTRIBUTED LARA: "READING PROGRESS"



# DISTRIBUTED LARA: "READING PROGRESS"

to take out of it, and burning with curiosity, she ran across the field after it, and fortunately was just in time to see it pop down a large rabbit-hole under the hedge.



In another moment down went Alice after it, never once considering how in the world she was to get out again.

### hole

#### Translation

- ← CHAPTER I. Down the Rabbit-Hole
- ← and burning with curiosity, she ran across the field after it, and fortunately was just in time to see it pop down a large rabbit-hole under the hedge.
- ← The rabbit-hole went straight on like a tunnel for some way, and then dipped suddenly down, so suddenly that Alice had not a moment to think about stopping herself before she found herself falling down a very deep well.
- ← Alice opened the door and found that it led into a small passage, not much larger than a rat-hole: she knelt down and looked along the passage into the loveliest garden you ever saw.

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# DISTRIBUTED LARA: CUSTOMIZING CONTENT

ivic Gregor! ЦЖ

[Peter meets Mr McGregor]

Mr. McGregor was on his hands and knees planting out young cabbages, but he jumped up and ran after Peter, waving a rake and calling out, 'Stop thief!'

[Mr McGregor chases Peter]

Peter was most dreadfully frightened; he rushed all over the garden, for he had forgotten the way back to the gate.

He lost one of his shoes among the cabbages, and the other shoe amongst the potatoes. 🕬

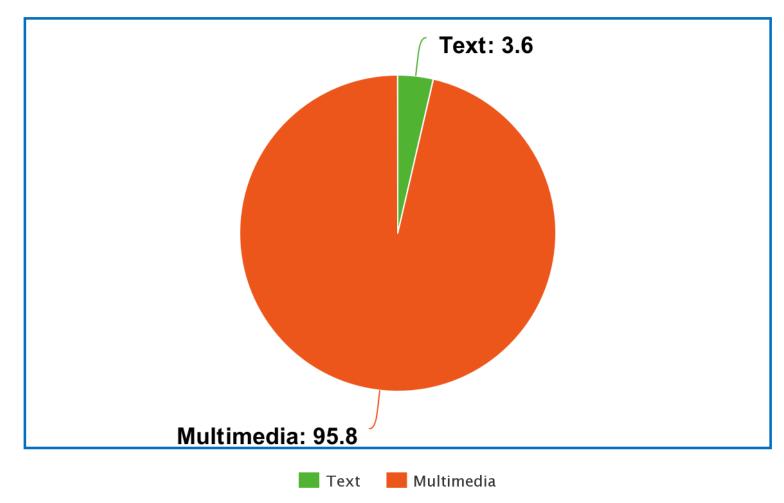
#### run

#### **Translation**

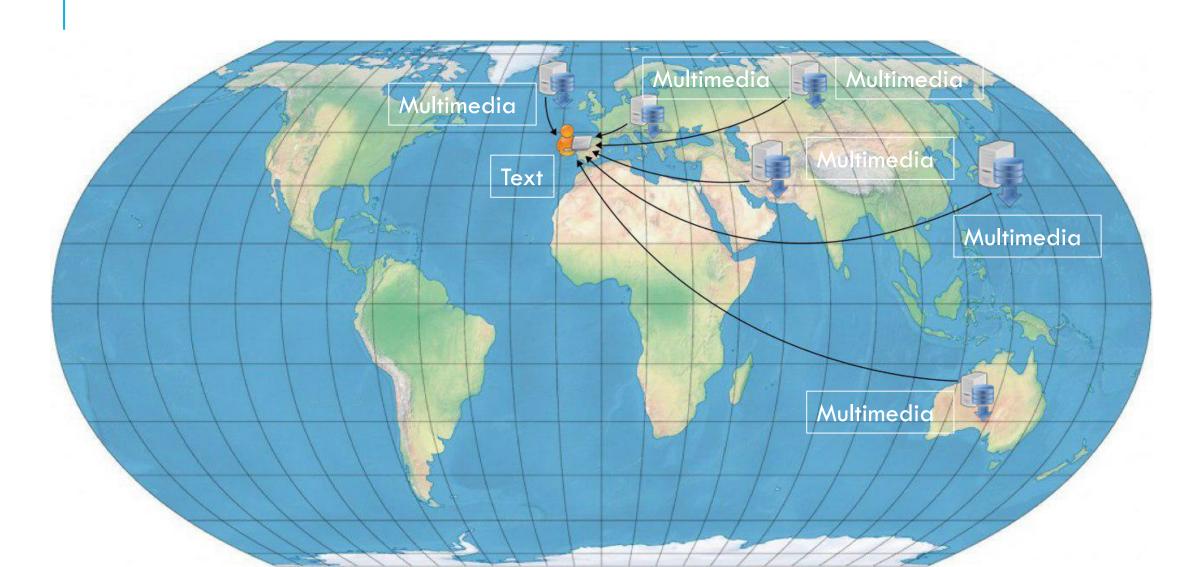
- ← 'Now run along, and don't get into mischief. I am going out.' 🖚
- ← But Peter, who was very naughty, **ran** straight away to Mr. McGregor's garden, and squeezed under the gate! 🕬
- ← Mr. McGregor was on his hands and knees planting out young cabbages, but he jumped up and ran after Peter, waving a rake and calling out, 'Stop thief!' 📢
- ← After losing them, he **ran** on four legs and went faster, so that I think he might have got away altogether if he had not unfortunately **run** into a gooseberry net, and got caught by the large buttons on his jacket. It was a blue jacket with brass buttons, quite new. 📢
- ← An old mouse was **running** in and out over the stone doorstep, carrying peas and beans to her family in the wood. ♠
- ← Peter got down very quietly off the wheelbarrow; and started **running** as fast as he could go, along a straight walk behind some black-currant bushes. <a>□</a>
- ← Peter never stopped **running** or looked behind him till he got home to the big fir-tree. 🕼
- ← when suddenly a White Rabbit with pink eyes ran close by her.

# DISTRIBUTED LARA: MOST CONTENT IS MULTIMEDIA





# DISTRIBUTED LARA: DISTRIBUTED CONTENT



Pedagogy and User Testing:

A Case Study of LARA for Icelandic

## **MOTIVATION**

### Initial idea

- Text content to help people learn a language by reading
- Key questions that LARA helps answer:
- Where have I seen that word before?
- How is that word/sentence pronounced?
- What does that word/sentence mean?

### Pedagogy

- Reading comprehension is the product of three main factors:
  - 1. Considerate texts,
  - 2. The compatibility of the reader's knowledge and text content, and
  - The active strategies the reader employs to enhance understanding and retention, and to circumvent comprehension failures.

(Palincsar & Brown, 1984)

# EXISTING LARA CONTENT: ICELANDIC



# USER TESTING OF LARA FOR ICELANDIC

### Methodology

Questionnaire (31 questions):

- Participant's background
- Perceived usefulness with a Likert-scale (1-5) (Davis, 1989)
- Open questions about assessment of digital tools (Nesbitt, 2013)

Place: language classroom at University of Iceland

Participants: learners of Icelandic

Device: laptop computer & headphones

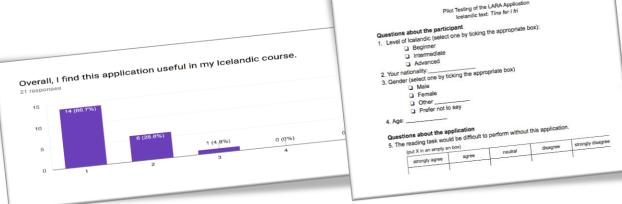
Text: Tína fer í frí by Esther Skriver (2700 words)

Time: 10 min. for instructions, 60 min. for reading, 20 min. for questionnaire

### Pilot testing

- 21 learners of Icelandic as a second language
  - 19 beginners, 2 intermediate
- Gender: 10 women, 8 men, 1 other, 2 don't want to say
- Nationality: 11 Filipinos, 2 South Koreans, 2 N. Americans, 1 from Canada/Israel/Italy/Pakistan/Tunisia/Vietnam

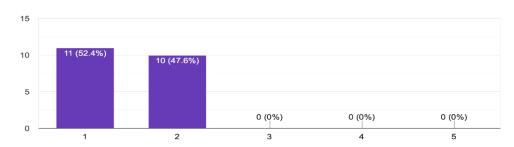
Age: 21-41 y.o.



### Questions about the application and learning effect

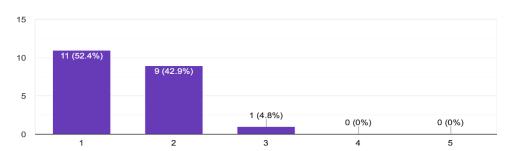
Using this application gives me greater control over my reading task.

21 responses



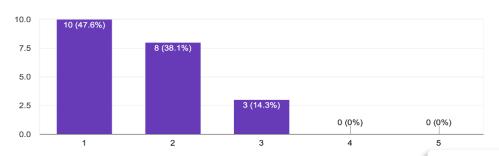
Using this application improves my understanding of the Icelandic text.

21 responses



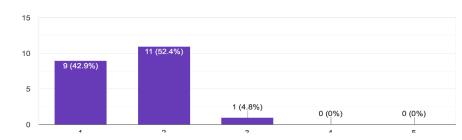
Using this application allows me to accomplish more reading tasks than would otherwise be possible.

21 responses



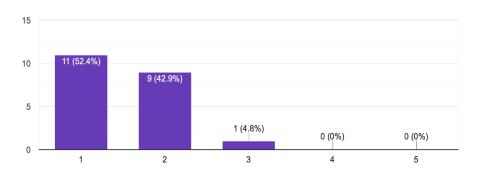
This application enables me to accomplish reading tasks more quickly.

21 responses



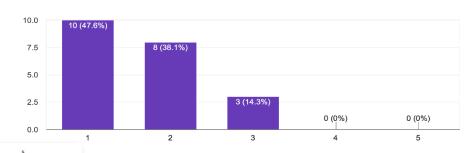
Using this application saves me time.

21 responses



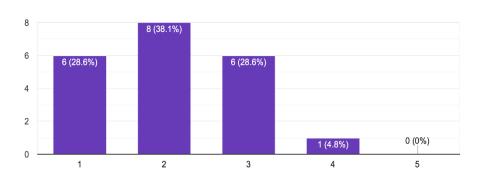
Using this application allows me to accomplish more reading tasks than would otherwise be possible.

21 responses



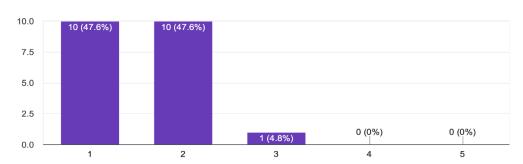
The reading task would be difficult to perform without this application.

21 responses



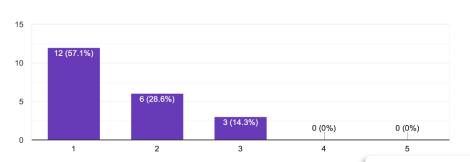
Using this application enhances my effectiveness in reading.

21 responses



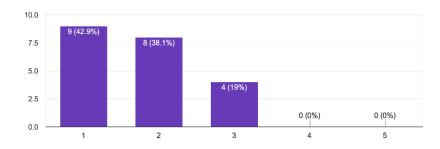
Compared to using books, using this application improves the quality of reading Icelandic texts.

21 responses



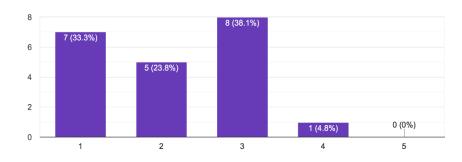
Using this application makes it easier for me to learn vocabulary.

21 responses



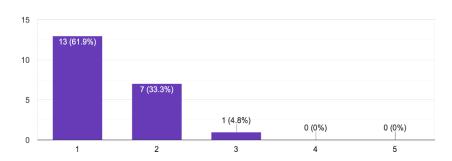
Using this application makes it easier for me to learn grammar.

21 responses



Using this application makes it easier for me to learn pronunciation.

21 responses



### Do you like this application?

• yes, helps me a little rather than reading alone, I like it because of the things it allows to do simultaneously, ...

### Have you had any problems while using this application?

• no, minor issues, at first yes but wen I will use it often then I will use it properly, text can accidentally move sideways, not adaptable to many browsers, slow on iPad otherwise great, some mistakes in translations and voice, ...

### Would you like anything changed or added?

• no, meanings of colour coded words, adding a short introduction, maybe the translation of the whole sentence, add explanations about grammar, add synonyms and antonyms, add also a female voice, ...

### How is the design?

• good, perfect, beautiful, basic, simple helpful, well organised, monotonous but functional, spacing could flow smoother, do not segment the text too much, more pictures and larger text, add some interactive activities, ...

### How are the on-screen instructions?

• clear, could be improved, easy to navigate, I was clueless in the beginning but when I tried to explore it it is worth it, I don't get the use of back to alphabetic text,...

### How were the explanations your lecturer gave you in class before you used this application?

good, clear, helpful, ...

### Does this application meet your needs as a learner?

yes, funny story and useful grammar, personally I need to practice more with examples but this is definitely helpful and saves us
a lot of time, almost completely – some questions about sentence structure came to mind that were not explained

### Do you have any other comments or suggestions?

• let's use it in class, maybe some colour, some words didn't have a sound, unlike google translate this application in all in one, you can also open it using a phone in the Puffin browser, more grammar examples and sentence composition explanations, ...

# THANK YOU!

