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TopLang – an UPSKILLS simulation experience



**L-Università
ta' Malta**

Upskilling linguistics and languages HE students
with the aid of educational games

4th UPSKILLS Multiplier event

Valletta, 30 May 2023

What we've learnt...

Graduate skills and employability: Focus interviews with selected job market stakeholders (Assimakopoulos et al. 2021):

- + a general preference for employees who are in possession of an HE degree, as they are bound to be more receptive to further training.
- apprehension as to how well these graduates are prepared for the sort of tasks that they will have to carry out when they enter a company's workforce

What we've learnt...

Graduate skills and employability: Focus interviews with selected job market stakeholders (Assimakopoulos et al. 2021):

Academic career

Continuous specialisation from B(X) to PhD.

=> focus placed on achieving a thorough understanding of a single particular topic or area of research.

Career in the industry

Specialisation, but also understanding of general procedures and workflows.

=> Focus placed on versatility and adaptability (i.e. that ability to handle a variety of tasks whilst thinking outside the box).

Can we address this through a game?

(Boocock, S.S. & E. Schild (1968) *Simulation Games in Learning*. California: Sage Publications)

"Simulation games serve many functions, but the important one to educators is that they present the student player with a real-life situation allowing him [sic] to use his [sic] knowledge and abilities while discovering decision-making skills for himself [sic]."

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=> Establishing relevance to UPSKILLS goals

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=> Establishing relevance to UPSKILLS goals

=> Conducive to active, task-based learning

=> Building of confidence

And why a game?

UPSKILLS survey of business sectors hiring linguists and language graduates

(Gledić et al. 2021):

Attributes most in need of improvement among graduates of linguistics and language-related degrees:

- Problem-solving
- Technical skills
- Organisational skills
- Communication skills
- Analytical skills
- Creativity
- Attention to detail
- Working under pressure

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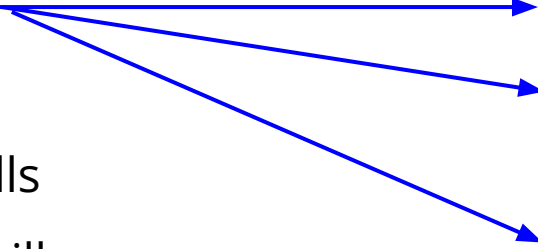
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The conception of TopLang

Inspiration drawn from *Lives in Transit* (Dusinberre et al. 2020): *Interactive, text-based game which simulates the experience of researching and writing global history.*

Given the focus of UPSKILLS on enhancing employability prospects, our game's aim is to link the student experience to real-life work tasks that have to do with linguistic data.

Since our target audience consists of HE students, the starting point is graduation. This is then linked to getting an internship in a language R&D company.

Scenario progression in TopLang



Level 1: A graduation with a twist!

TopLang - An UPSKILLS simulation experience

[Play level →](#)

Scenario progression in TopLang

A. Ensuring immersion:

- **Level 2:** What will the future hold? →
- **Level 3:** Your very first job interview!
- **Level 4:** So, what will it be?

You click on the second button. You'd better learn more about what you may be getting yourself into:

The internships on offer are for language specialists with digital skills and an aptitude for data analysis. Successful applicants are expected to offer support to the core team by performing tasks that are linked to the following four LangX roles, as the need arises:



=> Player to choose between joining the R&D team specialising in linguistic analysis or the one specialising in NLP...

Added value: Introduce main story characters, establish a behaviour for the player's character...

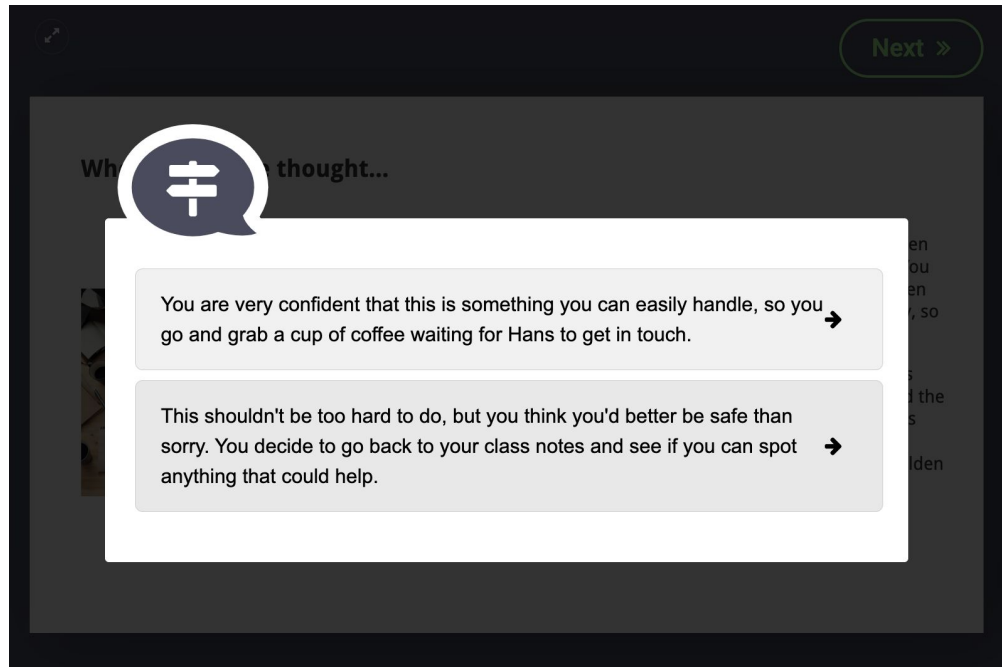
Strengthening immersion - both paths

- Introduce workflows: daily briefing meeting, allocation of tasks to the team → collaborative work...
- Introduce more characters: manager, mentor, colleagues...
- Familiarise player with the realities of being on the job:
 - Volunteering for a task
 - Being assigned to a task
 - Getting assigned to a task that they may not want to do
 - Getting feedback on their work within the scenario

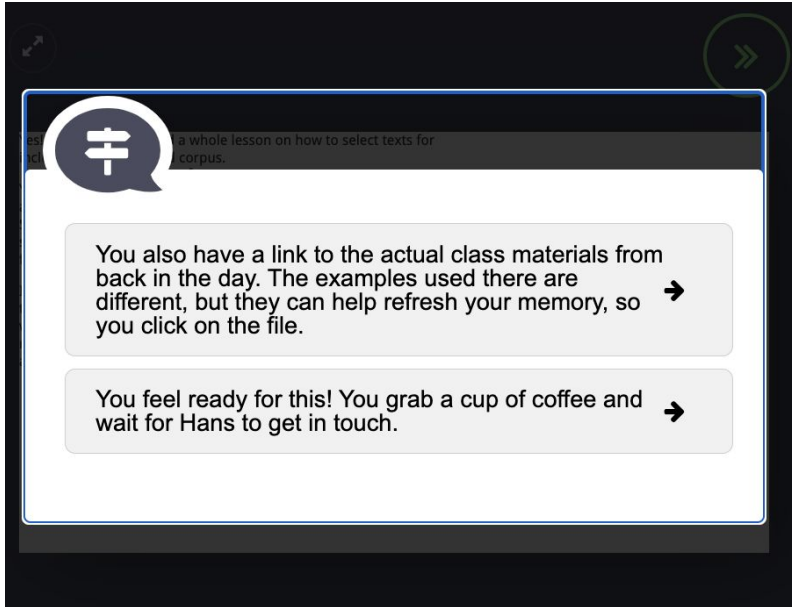
Gamifying learning - the language analysis path

=> Player gets tasks to complete in line with their internship role, and can “check” their class notes in order to complete it.

Giving the player a choice:



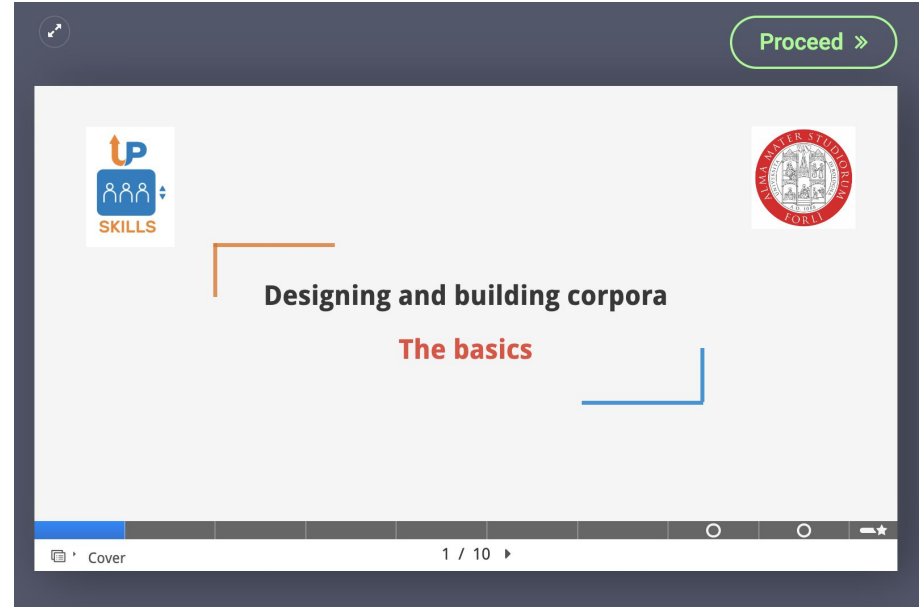
Gamifying learning - the language analysis path



...a whole lesson on how to select texts for corpus.

You also have a link to the actual class materials from back in the day. The examples used there are different, but they can help refresh your memory, so you click on the file. →

You feel ready for this! You grab a cup of coffee and wait for Hans to get in touch. →



Proceed »

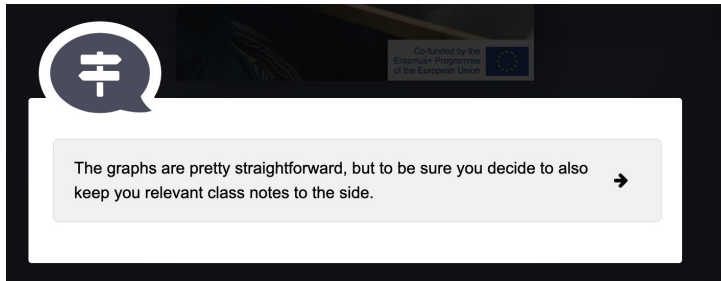
SKILLS

DESIGNING AND BUILDING CORPORA

The basics

Cover 1 / 10 ▶

Gamifying learning - the language analysis path



The graphs are pretty straightforward, but to be sure you decide to also keep you relevant class notes to the side. →



TopLang Next »

Stacked bar plot: provenance

A **stacked bar plot** displays subgroups of the given categories on top of one another as part of the same bar/column, instead of next to one another. This makes it easier to make comparisons across the categories.

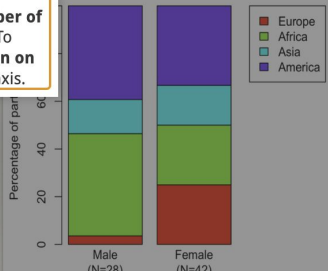
Whenever using percentages, the **height of the bars** is obviously **no longer indicative of the absolute number of observations** per category, as it always adds up to 100. To make up for this, we have decided to include **information on sample size** below the labels of the categories on the x axis.

that of females; their number is
- The percent of females from America is
than that of males; their number is

similar higher higher lower higher

Check

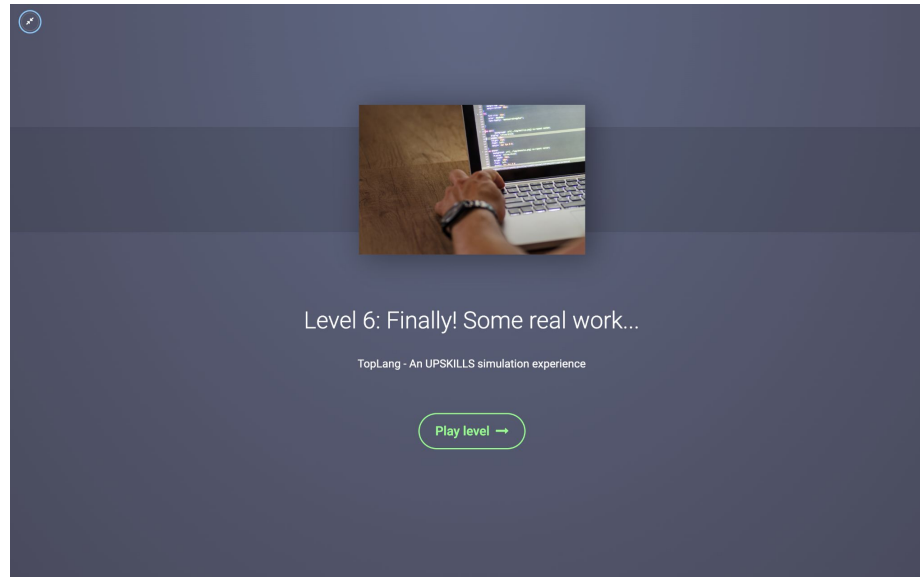
Proportion of participants by gender



Gender	Europe	Africa	Asia
Male (N=28)	~5%	~40%	~55%
Female (N=42)	~25%	~25%	~50%

Gamifying assessment - the NLP path

=> Through “role-playing”, the player gets a problem, which they’ll have to solve by bringing in disciplinary knowledge.



Gamifying assessment - the NLP path

What we've seen:

- A work-simulation quiz.
- Increasing levels of complexity.
- Feedback when wrong answer is provided. (*assess and strengthen learning)
- Further motivation through praise when correct answer is chosen.

=> applying disciplinary knowledge to real-life problems.

Scenario progression in TopLang

D. Towards a game resolution

- Completing a number of tasks familiarises the player with a two-week workflow.
 - Safeguards to correct mistakes
 - Creating a path to success
- => Player is eventually asked to apply for a permanent post.

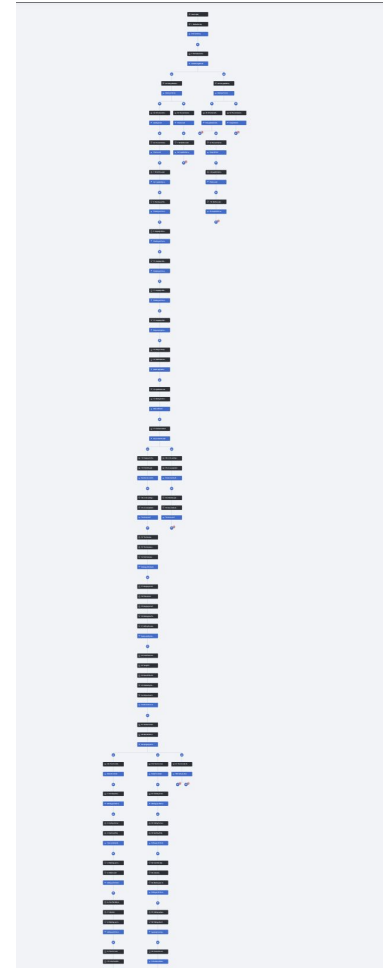
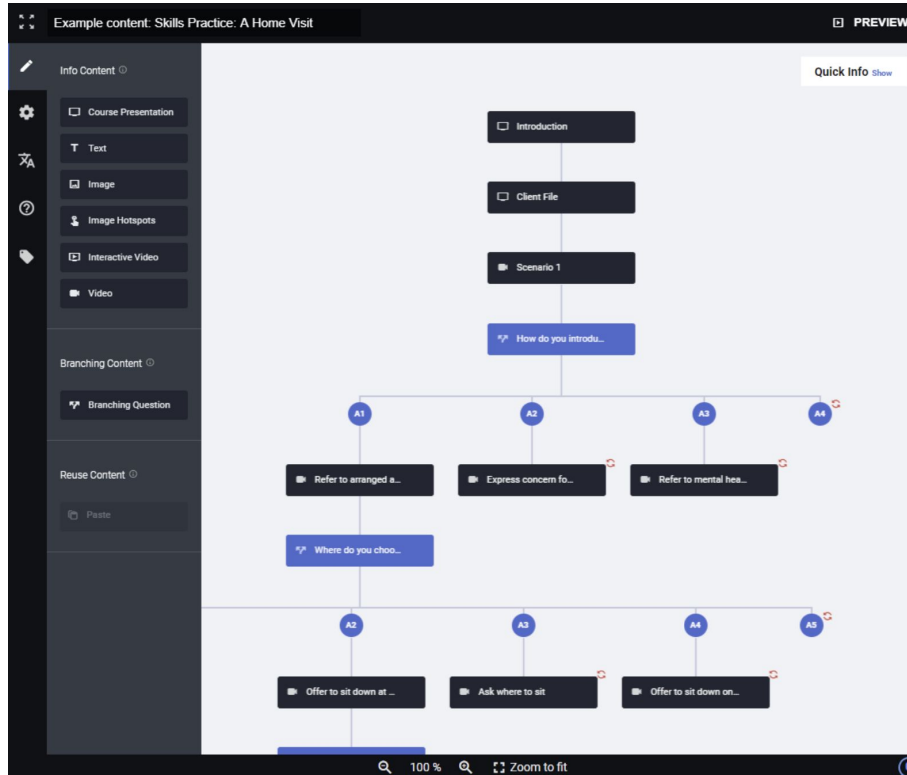
If they choose to pursue this, they are asked to write a motivation paragraph about what they've learnt on the job. (→ Indirect feedback)

Ok, the “fun” is over... How do I do this?

H5P: free and open-source content collaboration framework based on JavaScript.

- Ability to create a multitude of interactive content types!
 - In our case “Branching scenario”
- No need of specialised software for users to access (works directly in the browser)
 - Cross-platform compatibility
- Direct integration with most LMSs and even simple websites.
 - Ease of deployment
- “WYSIWYG” editor!!!!
 - there is a learning curve, but at least you won’t have to code

Ok, the “fun” is over... How do I do this?



Ok, the “fun” is over... How do I do this?

Untitled Branching Question Remove Done

Title * Metadata

Used for searching, reports and copyright information

Untitled Branching Question

Question

Available alternatives *

Alternative × ↑ ↓

Text *

Advanced branching options

Alternative × ↑ ↓



Feedback

It is recommended to provide feedback that motivates and also provides guidance. Leave all fields empty if you don't want the user to get feedback after choosing this alternative/viewing this content.

Feedback title

Feedback text

Feedback image

+ Add

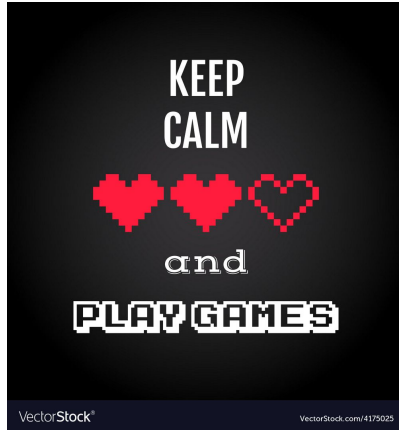


Close, but there is a better solution...

Sparse word vectors will take very long to use as they give large vectors which take longer to compare. They also contain less information than dense word embeddings as they will still require exact word matches in the term-term matrices.

Next »

Ok, the “fun” is over... How do I do this?



Don't panic!

=> We're currently preparing a manual that can guide you through the process of adapting the game

or even of creating your own!

Why create your own version?

TopLang can be used as a standalone game, but it's actual purpose is different:

- The obvious one: To disseminate the upskills rationale even further
 - The real (?) one: To showcase that game-based learning can be cost-effective, 'easy' to implement and versatile.
- ⇒ It's all about 'planting a seed': the rest is mainly creativity!



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Thank you!

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