



Faculté des Lettres,
des Sciences Humaines, des Arts,
et des Sciences de l'Éducation

Mobile, Playful and Collaborative Learning with TellYourTown: Empirical Results from Field Studies in Trier and Esch

12th September 2018

Evidence-based development of serious games for the educational sector:
challenges and perspectives

Future Classroom Lab, Brussels, Belgium

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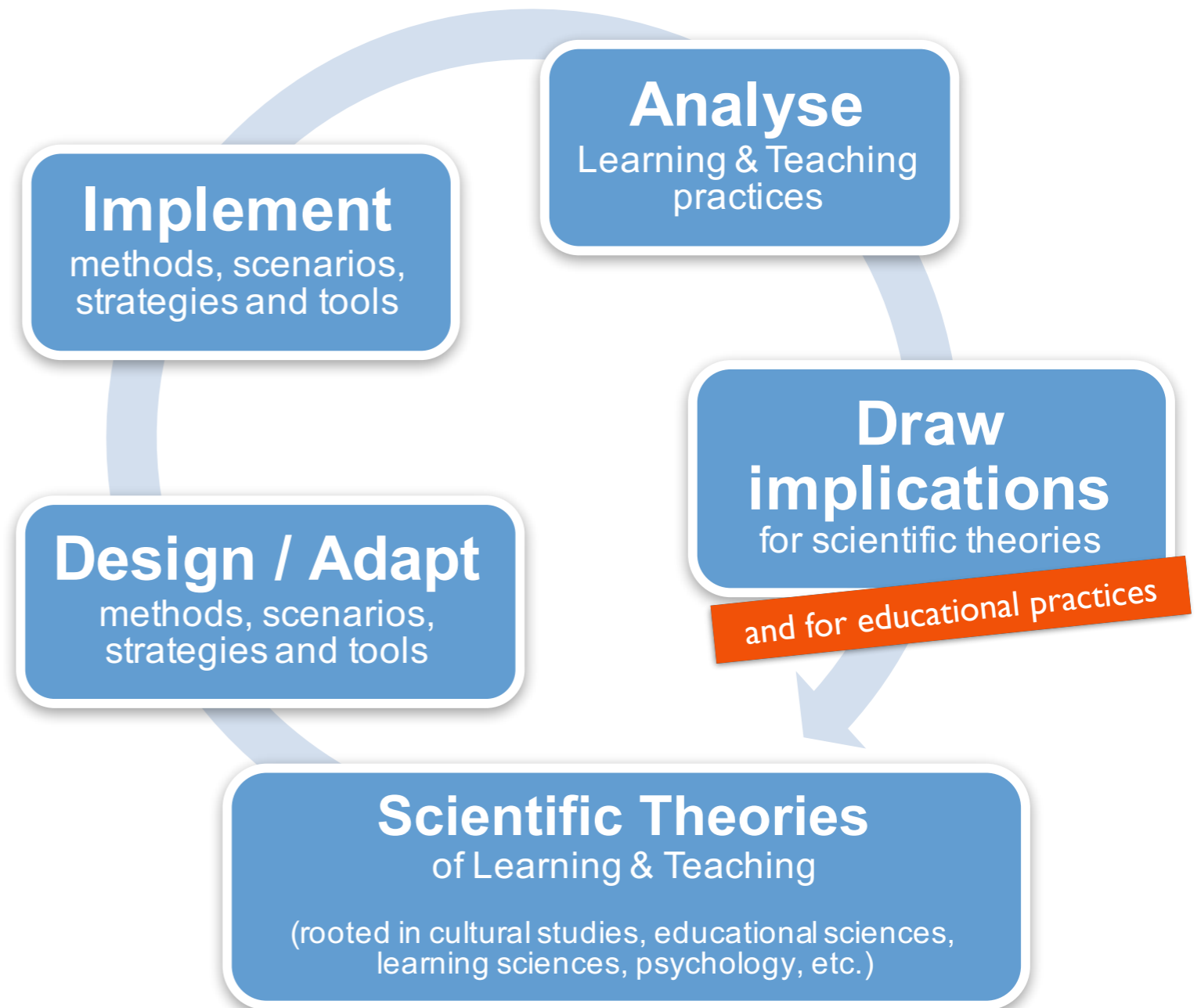
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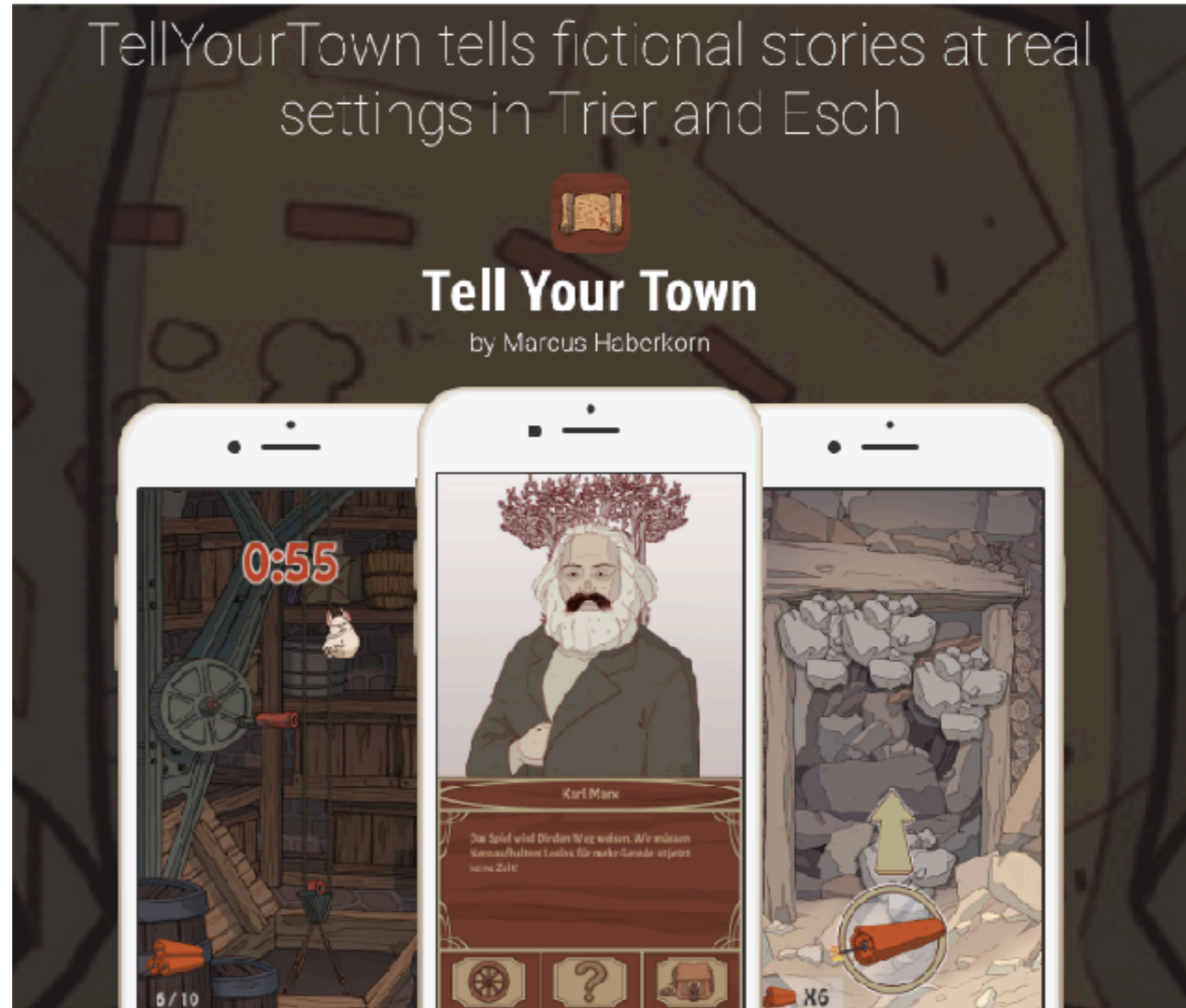
Research Approach

1. Innovative research in collaboration with teachers
2. Design, evaluation and dissemination of tools to improve teaching and learning
3. Development of evidence-based theories of teaching and learning



TellYourTown

1. Mobile
2. Location-based
3. Story Telling
4. Developed with schools &
by Hochschule Trier





Field trials: Trier & Esch

Trier: 15.02.2018 | Esch: 01.03.2018

Sequence (60-90 minutes)

1. welcome at the starting point
2. explanations of the procedure (with map in Esch)
3. announcement of time & meeting point of the conclusion
4. separation into groups
5. (accompanied) app-based exploration
6. reaching the goal
7. debriefing / UX questionnaire
8. lunch

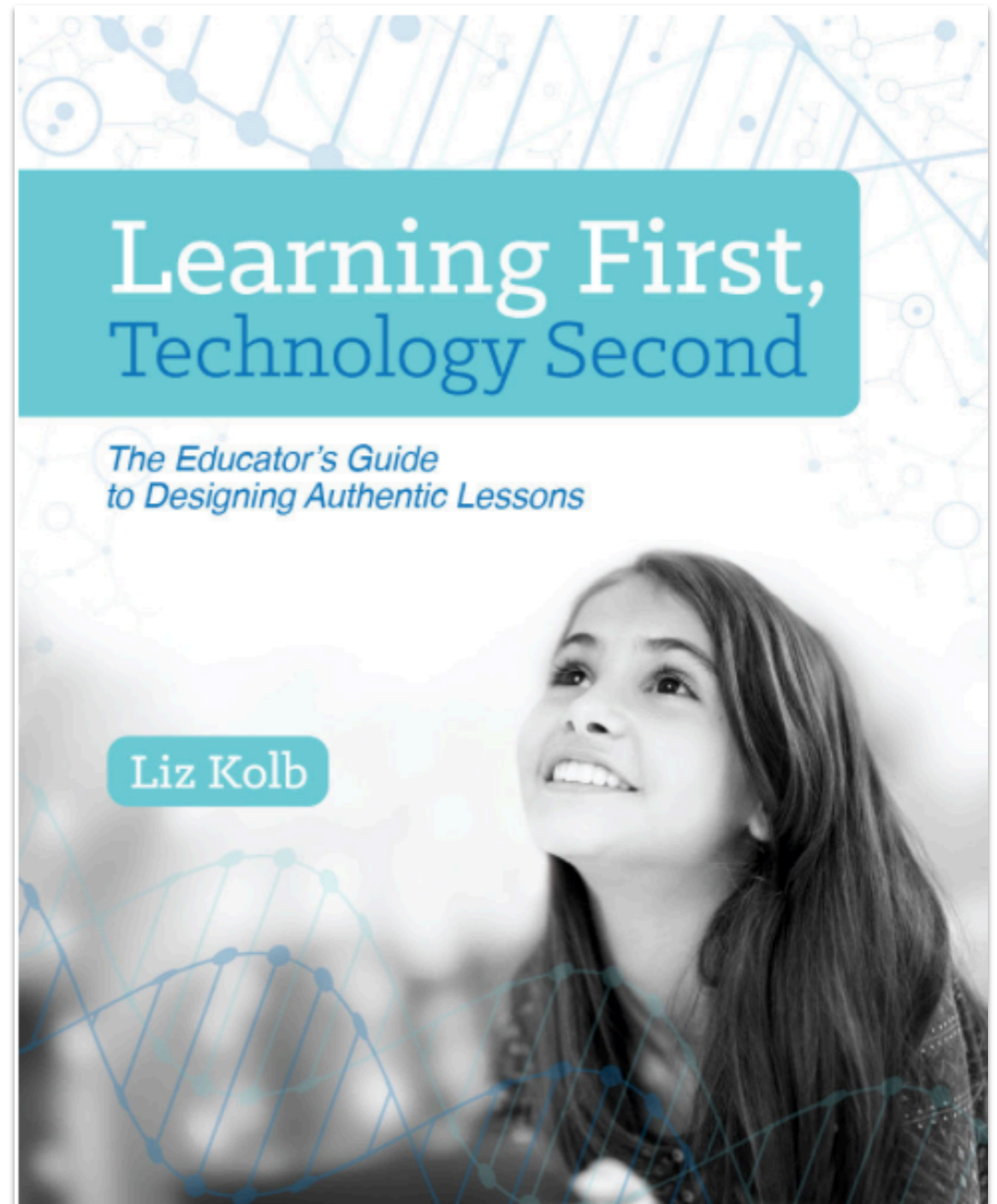
Field trials: Trier & Esch

Documentation (2 researchers)

- (Participant) observation: accompany 1 group of pupils at a time; do not try to influence the process directly, but available to answer questions (and make sure that the group does not get lost).
- Videography of exploration
- Questions to the pupils after the exploration (Trier)
- Questionnaire after exploration (Esch)

Framework

1. Engaged Learners
2. Enhanced Learning
3. Extended Learning



Kolb, L. (2017). *Learning First, Technology Second: The Educator's Guide to Designing Authentic Lessons*. Portland, Oregon: ISTE.

Observations (1)

Engaged Learners?

- Mini-games are played enthusiastically, but often by individual pupils => socially rather isolating
- Despite the cold everyone (somehow) participates, although some complain that it is cold.
- Leader wants to find waypoints, wants to answer questions correctly
- At the waypoint, they gather around the device, but some students stay "in the second row" and then engage elsewhere (either mentally or physically).





Observations (2)

Enhanced Learning?

- Added value: Mobile app leads students to waypoints via distance measurement & image detail
- In the Zone of Proximal Development? Not always given, interest of the pupils in the historical/urban planning knowledge not necessarily (automatically) aroused
- Game generates individually significant questions about the history and the (German) language ("Did the Porta Nigra really burn?")
- Students read out texts when they want and hand the device over to someone else when it's too boring or difficult.
- Higher cognitive performance (according to Bloom) is less promoted when playing the game itself
- **But that was the case when developing the game.**

Observations (3)

Meaningful / Extended Learning?

- But no "further questions" were asked about other (interesting) things
- Authentic learning contexts: "where things are"
- Some pupils simply come along, even though it doesn't make much sense to them
- Connection to prior knowledge takes place for the "locals": they become experts of their city
- Dialogues with the fictional game leader character are simply clicked without any real discussion of the content.

Questions & Survey

Overall impression:

- APP overall: rather good
- Handling/installation: simple
- Text & text length: OKAY

What's missing:

- Other places
- Fun
- Other languages
- Colours
- Arrow with direction
- Easier description

Liked:

- Mini-games
- Group work
- See new things / new places

Not Liked:

- GPS problems
- Walking far
- Game is too long to reach 100%
- Pictures: average

Tensions / Distances

- between history and pupils (at the waypoints)
- between history and pupils (on the paths)
- between pupils (languages + hometown)
- between pupils (gender)
- between leader/reader and rest of group
- between students and device (a few hold it)
- between pupils and knowledge (answers are often given)
- between device and satellites (GPS positioning is not always successful, device is held in the air to overcome distance)



Some recommendations & questions

Technical:

1. Generate "meaningful" paths for Trier and select them randomly
2. Orientation aid by indicating the compass direction to the next waypoint
3. GPS positioning is sometimes a bit "slow" or "inaccurate" => larger radius around the waypoint triggers "waypoint achievement"
4. Texts are read aloud (but this means that small groups are using the app and/or individual children with headphones).
5. Could be expanded towards "VoiceOver" feature for visually impaired
6. App could give tasks for the paths between the waypoints which specifically / strategically draw attention to "interesting" aspects of the city (Which ornaments can be seen above the house entrance doors?) => stimulate curiosity
7. Correct answers have a meaning for the course of the game, e.g. wrong answers lead to "heart loss", or correct answers are rewarded (points, rewards & badges).

Some recommendations & questions

Logistical:

1. Bring battery packs
2. If possible tablets rather than smartphones, bigger = better
3. Bring (mobile phone capable) gloves or play it if it is warmer

Pedagogical:

1. Reduce distances: Getting to know before the exploration, introducing each other in the group, wearing name tags.
2. Local pupils should be more explicitly instructed to act as host and guide
3. Max. 2-3 students per device: more focused attention on the learning object // hearing the reading aloud would be better
4. Adult companion acts as entertainer => captivating / entertaining (possibly with up to 10 students)
5. Raising awareness of language diversity
6. Encourage “ongoing friendships”
7. Farewell ceremony
8. Common target language instead of first languages side by side?



<http://bit.ly/2DnEYTy>

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TellYourTown

Das Projekt "TellYourTown" wurde geleitet von [Marcus Haberkorn \(Hochschule Trier\)](#). Die App wurde entwickelt von Julia Wolf, Yasmin Schraven, Maxine Hammen & Sebastian Krause (ThoughtBread). Für die wissenschaftliche Begleitung war Dr Robert Reuter und Valérie Kemp (Universität Luxemburg) verantwortlich. Unterstützt wurde das Projekt von der Nikolaus Koch Stiftung, vom Ministerium für Bildung Rheinland-Pfalz, vom Pädagogischen Landesinstitut Rheinland-Pfalz, von der Staatskanzlei Rheinland-Pfalz, vom SCRIPT des Ministère de l'Education nationale, de l'Enfance et de la Jeunesse Luxembourg und vom Ministère de la Famille, de l'Intégration et de la Grande-Région Luxembourg.

Projektbeschreibung:

Im Rahmen des transnationalen Entwicklungs- und Forschungsprojektes „Sprachen Lernen – Integration fördern“ wurde, zusammen mit Schulklassen der Kurfürst-Baldwin-Realschule (Trier, Deutschland) und der Brill Schule (Esch-sur-Alzette, Luxemburg), eine mobile App (TellYourTown) entwickelt, welche fiktionale Geschichten an echten Schauplätzen in Trier und Esch erzählt. Entwickelt wurden die Geschichten während des Schuljahres 2016/2017 in Zusammenarbeit mit den Schülerinnen und deren LehrerInnen. Diese Geschichten wurden dann als Basis für die Entwicklung der Routen genutzt.

In der Route Esch steht die Geschichte vom Luxemburgischen Bergbau und den cortigen Minenarbeitern im Mittelpunkt. Die Route Trier handelt von einem Wettlauf zwischen Karl-Marx und Nero durch Trier. In diesem wird der Spieler von Karl-Marx begleitet und lernt so bekannte Orte aus Trier kennen.

