How MISSION BERLIN gamified
my FL/L2-German class – a six-week journey

Bart Pardoel[1], Salomi Papadima-Sophocleous[2],
and Androulla Athanasiou[3]

Abstract. This paper contributes to a better understanding of the affordances of gamification in Foreign or Second Language (FL/L2) education, specifically in the context of a secondary school. An Exploratory Research (ER) was conducted, aiming to examine how gamification affects secondary school learners' experience in the FL/L2 classroom. A six-week technology-assisted gamified mobile language course for German as a Foreign Language (GFL), called MISSION BERLIN, was developed, implemented, and evaluated. Data collection methods include semi-structured focus group interviews with all students, an online survey and Moodle logs. Results indicate that there are certain game elements that are more useful in a mobile Moodle environment than others, and that structure and duration of the course, as well as technical issues, influence the students' learning experience. The paper concludes with suggested improvements and final considerations for the implementation of a gamified mobile course for FL/L2 learning.

Keywords: foreign language learning, gamification, Moodle, MALL.

1.   Introduction

Current generation students are different in the way they learn and in the way they process information. They are used to interactive, dynamic content and information on demand. This is a world in which action is triggered by rewards, fun, and competition (Zarzycka-Piskorz, 2016). Such characteristic game elements

1. Cyprus University of Technology, Limassol, Cyprus; b.pardoel@gmail.com
2. Cyprus University of Technology, Limassol, Cyprus; salomi.papadima@cut.ac.cy
3. Cyprus University of Technology, Limassol, Cyprus; androulla.athanasiou@cut.ac.cy

can be adapted for the needs arising during language classes (Danowska-Florczyk & Mostowski, 2014).

Using game elements outside a game context and applying them to, in this case, a GFL classroom, is a process called 'gamification'. This concept draws on the *self-determination theory* (Ryan & Deci, 2000) and the *theory of flow* (Csikszentmihályi, 1975). A person might experience *flow*, the "holistic sensation that people feel when they act with total involvement" (Csikszentmihályi, 1975, p. 36), when they feel their skills are good enough to overcome challenges.

Although the application of gamification in the area of education has a high prospective (Kapp, 2012; Simões, Redondo, & Vilas, 2013), remarkably few papers about gamification for FL/L2 learning in a secondary school context have been published (e.g. Dicheva, Dichev, Agre, & Angelova, 2015; Garland, 2015; Hamari, Koivisto, & Sarsa, 2014). This study examines the students' experience with MISSION BERLIN, a six-week gamified mobile online language course at A1 level for Dutch secondary school students.

In the following sections, we describe the methodology employed, followed by the main results and conclusions drawn from this research.

2.   Method

2.1.   The setting

The study took place in a small pre-vocational public school in the Netherlands. As a part of the mandatory programme, GFL at A1 level is offered to all students. In this study, two groups with a total of 39 (m=16/f=23) students between 13 and 14 years old participated as an 'intact class' (Mackey & Gass, 2005, p. 142). Nearly all of them stated that they play games, ranging from digital or mobile games to board or card games. When playing MISSION BERLIN, the students used the school's Wi-Fi connection and their own mobile devices.

2.2.   Research design and data collection

An exploratory research approach was adopted to examine how gamification affects secondary school learners' experience in the FL/L2 classroom. The data were collected in a mixed methods procedure: quantitative data from the Moodle

logs, consisting of 45,003 students' interactions with the website, and qualitative data from the focus group interviews, held at the end of the six-week course. A concurrent embedded design model (Creswell, 2009) was then used to collect and analyse the data, using triangulation to compare the statements in the focus group interviews with the Moodle logs.

2.3. Gamified course design

As shown in Figure 1, the participants used the Moodle platform, where they 'travelled through Germany by train', and 'visited several important German cities'.

After six weeks, the students 'arrived' at their final destination: Berlin. Each city contained some compulsory and optional challenges that, when finished, gave rewards to students. By completing optional challenges, the students could collect rare items.

During the course, the students were encouraged to complete individual and collaborative challenges, take quizzes, collect and construct artefacts, and gain coins and tickets in order to proceed through the game (see Figure 2).

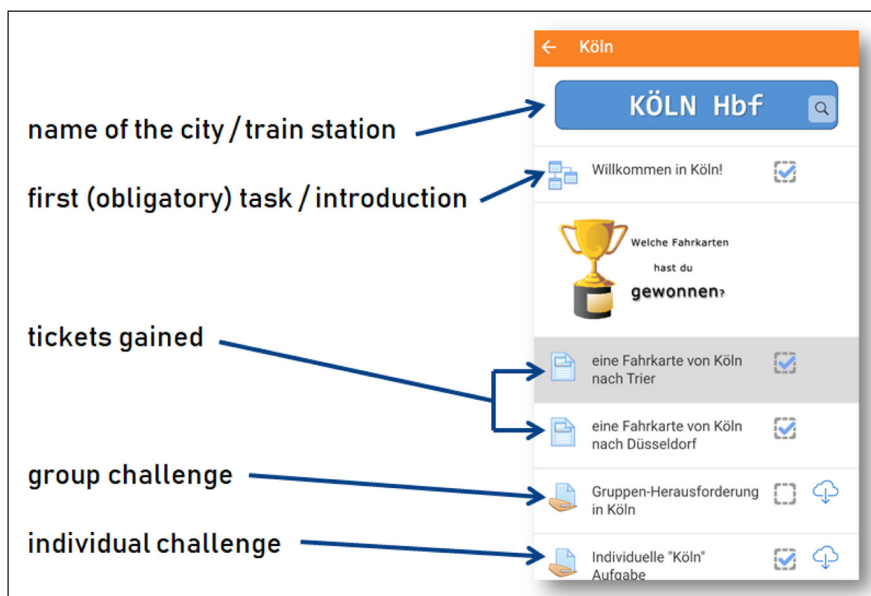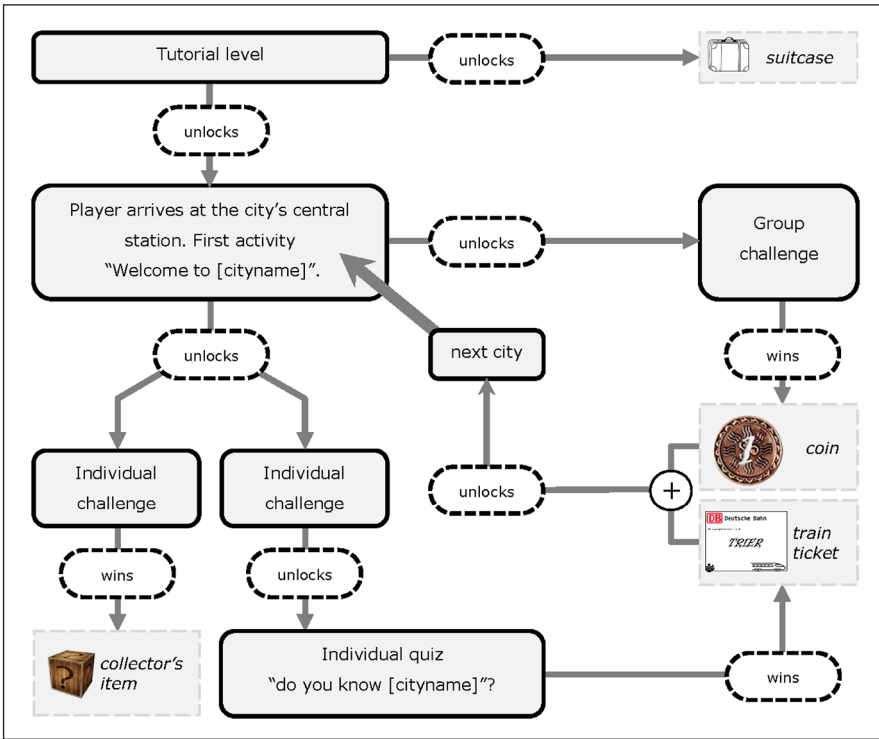Figure 1.   Students use their mobile devices to access the Moodle platform

Figure 2.   Basic structure of the learning path per city

3.   Discussion and findings

As stated in the focus group interviews, the activities in the first cities were perceived as too hard, whereas activities in later cities proved to be of little challenge. This means that students only at some point were in the state of flow (Csikszentmihályi, 1975), but this was not the case during the entire game. It also implies that the Onboarding/Tutorial phase was too short, as the students initially felt over-challenged and not in control (Ryan & Deci, 2000). Also, more scaffolding (e.g. tutorial, L1 instructions) is needed. Moreover, what becomes apparent is that certain game elements were more popular than others. The most popular abstract game elements were cooperation and unlocking content. These elements addressed the players' need for rewards and group competition (Zarzycka-Piskorz, 2016). However, findings in this study show that students were unaware of most concrete game elements, with one clear exception: the coins. Unlike the items, which where

only noticed by three students, two-third of the students knew exactly how many coins they collected after finishing MISSION BERLIN. Initially, the coins were implemented to unlock cities, as shown in Figure 1, but gradually they replaced other game elements' functions. For example, some students thought of them as rewards, which reduced the need for a badge, or used them to compare their progress in the game with other students, thereby ignoring any team leaderboards or progress bars. Coins are countable, gradable items, which makes them comparable to other students.

Other findings in this study suggest that the duration of the gamified course is a decisive factor for a positive learning experience. When the students (n=17) mentioned the duration of the course, most students (n=11) specifically stated that a shorter four-week course would keep MISSION BERLIN more challenging; only one student preferred a longer playtime. Any technical issues may also affect the student's learning experience negatively, as ten out of 35 suggestions for improvement were grouped around technical malfunctioning of the gamified system. Finally, log results indicate that the more active students are in class, the more likely it is they continue to play when they are at home.

4.   Conclusions

The results of this study imply that there is a positive impact on learners' experience in a secondary school context, provided there are not too many technical issues. More importantly, the data analysis has revealed specific conditions under which a gamified language course can be more or less effective. From the results of this study, we may conclude that gamification in a mobile context seems to work best in short sprints of four weeks. A longer duration of the course would have a negative effect on student's experience. However, a different setup (e.g. more cities, more coins) could extend the optimal duration.

Results also indicate that more scaffolding is needed, especially in the beginning. Furthermore, results strongly suggest that specific game elements (coins, levels, unlocking content, retrying, feedback) have more impact on students' experience than others.

Finally, high-active students are more likely to play in their leisure time. Low-active students will play only during school. Overall, in order to improve the students' experiences, MISSION BERLIN 2.0 could be re-designed based on the comments of the majority of the study's participants.

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