

Board games for teaching English prosody to advanced EFL learners

This exploratory study fills the gap in research on using print board games to teach English prosody to advanced EFL learners at university level. We developed three in-class print-and-play board games that accompanied three prosody-related topics in a course in English phonetics and phonology at a Polish university. For those topics, compared to topics without any board games, learners reported higher in-class engagement and obtained higher post-class quiz scores. At the end of the course, learners rated board games as equally or more useful than some of the other teaching aids. While traditional printed worksheets were still rated as the most useful teaching aid, learners expressed their preference for using extra classroom time for playing board games instead of completing extra worksheet exercises. We hope these promising results encourage teachers to experiment with implementing these and other board games in their advanced curricula.

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Theoretical support for board games in ELT

Board games have been the topic of many scientific studies, primarily in psychology, covering such research areas as memory, perception, decision making, problem solving, motivation, intelligence and neuroscience (Gobet, de Voogt, and Retschitzki 2004). According to Danesi and Mollica (1994: 346–347), recreational mental play in the form of board games can be the most memory-enhancing way in which L2 learners develop new linguistic concepts. In the ELT classroom, puzzleological techniques (i.e. board games, crosswords, word searches, etc.) are commonly used for reinforcing communicative skills as well as reviewing structural and lexical knowledge (Treher 2011). Moreover, playing board games is a social experience that can boost the development of social and emotional skills (Hromek and Roffey 2008). Additionally, since classroom engagement is partly based on peer interactions, playing board games could increase it.

Use of board games in higher education

While we know of no research that focuses on ELT board games at higher education level, board games have been used in other higher education contexts to teach, organize and connect learners from different educational backgrounds (Holmes and Gee 2016). During the last decade, the application of *game-based teaching and learning* (GBTL) in higher education became a legitimate field of study and an accepted form of university-level instruction. A case study by Cochran (2012) showed that the use of board games in the classroom can significantly improve learners' comprehension and retention. Smith (2013) asked his history students to research historical events while playing an actual board wargame *1776* by Avalon Hill, boosting their in-class engagement by promoting a dynamic and interactive learning environment. Despite these promising results, board games are still quite

uncommon in higher education. This is probably because faculty guidelines rarely mention them as standard teaching methods and not every teacher may want to experiment with them.

Board games for advanced EFL learners

Recent research on ELT games tends to focus on *digital* games (for example Hong, Han, Kim, and Bae 2017). However, print board games are still easier to implement in classrooms without computers or internet connectivity. The use of such tabletop board games in ELT is usually limited to grammar or vocabulary (Paris and Yussof 2012; Bakhsh 2016). The scarce research on print ELT board games focuses on young learners. This is probably because all phonetic games available on the market are aimed at either primary learners (Nixon and Tomlinson 2005) or beginner to intermediate learners of all ages (Hancock 1995; Hancock 2017). Perhaps the only category of games suitable for the more advanced adult students of English phonetics & phonology are adaptations of existing games for practising IPA symbols, for example the IPA versions of Scrabble and Bingo published by Cascadilla Press. Since we could not find board games dealing specifically with English prosody¹ at university level, we designed our own games.

Why board games for teaching prosody?

The decision to create board games for teaching English prosody to advanced Polish learners of English at university level was motivated by the fact that English prosody is one of the most difficult aspects of English pronunciation to teach to Polish students (Sobkowiak 2008). Over the years of teaching, our students often reported that prosody-related topics were among the most challenging ones.

Throughout our teaching, we follow Wrembel's (2007) suggestion that improving learners' performance on such challenging pronunciation topics could be achieved by increasing their metacompetence, i.e. explicitly teaching them the 'rules' of English prosody before they start their pronunciation drills. Historically, most of our learners showed little engagement in the classes focusing on prosody, so we decided to experiment with board games to see if they could help learners engage more with the topic, and, as a result, learn it better.

The study

Aim

This paper examines the usefulness of board games for learning *about* English prosody. We expect that playing board games during classes that discuss prosody will be associated with increased learners' in-class engagement and post-class assessment performance, compared to classes without board games.

Institutional context

We implemented our games in a two-semester course in English phonetics and phonology. The course is obligatory for all first-year students of English Studies at the Faculty of English, Adam Mickiewicz University in Poznan, Poland. It aims to supplement the obligatory four-semester practical pronunciation course by making students aware of how English speech sounds are produced, transcribed, and how they function in real-life situations. And since many of the students become teachers, the course also aims to help them predict and correct the pronunciation errors of their potential future students. Broadly, the first semester focuses on the phonetic description of English sounds and connected speech processes, while the second semester expands on that by introducing prosody-related topics and regional varieties of English.

The course was offered in a flipped-classroom³ model with one 90-minute class per week. Each week covered a different topic. Before each class, the learners were required to complete an online pre-class preparation module that we created on Moodle. The module contained a short video lecture on the topic, a few close-ended ungraded activities with pre-scripted feedback, and links to one or two supplementary readings (chapters from English phonetics and phonology textbooks). The 90 minutes of classroom time was devoted to completing worksheet activities (more advanced versions of the online pre-class activities) and clarifying any confusing concepts. By the end of each course week, the learners took an online graded quiz. They also took a longer test midway through each semester and the final exam at the end of the second semester.

Game design

We created three board games that focus on three key prosody topics in our course: word stress (*Stress Run*), weak forms (*Stress Maze*), and phonotactics² (*Phono Tactics*). The games use components that can be printed in greyscale on A4 paper. The players only need to add dice and counters, such as coins. Each game was designed for at least two players and about 30 minutes of play. All three games are freely available in a print-and-play format at bit.ly/phongames. Due to space constraints, here we include an illustration of only one game.

Stress Run shown in Figure 1 was designed for two or more players to review English stress patterns in compound words. In order to get from the campus to the library, players take turns clockwise to throw the dice. Players compare their dice rolls with a table that instructs them to move their counters to the nearest square with a specific stress pattern. For example, if a player rolls a two, then he or she has to move to the nearest square containing a compound in which the second element carries the primary stress (counting from the start, the first such square is *Abbey 'Road*). The player to the right checks the validity of the move in the answer key (an alphabetic index that makes it difficult to cheat). Rolling a six means that another player draws a challenge card with a question that the rolling player needs to answer for a bonus or a penalty.

Dice Roll	Stress Pattern	Dice Roll	Stress Pattern
	● •		● • •
	• ●		the nearest word with stress shift
	• • ●		Challenge Card
● = word with primary stress • = word with secondary stress			

Challenge Card	Challenge Card
<p>Question A pie made of blueberries is called a...</p>	<p>Question A sauce made in Worcester /'wʊstə/ is called...</p>
<p>Answer: <i>'blueberry'pie</i> (Manufactures Rule)</p>	<p>Answer: <i>'Worcester' sauce</i> (Location Rule)</p>
<p>Correct Free coffee giveaway! Move three squares forward.</p>	<p>Correct A friend gives you a ride. Move four squares forward.</p>
<p>Wrong Faulty traffic lights! Go back three squares.</p>	<p>Wrong You forgot about the quiz! Go back two squares.</p>

Downing Street	Marble Arch	Tower Bridge Road	Churchill War Rooms	Japanese Sushi	The Library <i>Finish!</i>	
Indonesian Eatery	National Portrait Gallery	London City Airport	Tower Bridge	Banqueting House	Chinese Wok	Battersea Power Station
Taiwanese Restaurant	Tower Street	Buckingham Palace	High Street Kensington	Old Operating Theatre	Argentinian Pub	Bakerloo Line
Royal Opera House	St Thomas's Hospital	National Gallery	Garden Party	Pakistani Kebab	Greenwich Foot Tunnel	St. James's Park
The Campus <i>Start here!</i>		Oxford Street	Abbey Road	Queen Anne's Gate	London Stock Exchange	Singaporean Bar

Figure 1. Top left: reference table for dice rolls. Right: a fragment of the board. Bottom left: two example challenge cards. Not shown are the instructions page and the answer key.

Stress Maze helps two players to review English weak forms. Players start at opposite ends of a grid with 96 squares, each of which contains a short phrase. Some of the phrases contain a function word in its weak form, while most contain either a function word in its strong form (for example, an auxiliary verb that occurs at the end of a phrase) or a word that does not have a weak form at all, such as 'may'. Each player moves their counter towards the finish square located in the centre of the board by placing their counter on the nearest square containing a function word in its weak form. The other player confirms whether the move was correct by referring to their answer key. Each answer key was designed so that a player can only see the opponent's correct answers. After making the move, the player makes a dice roll to receive a bonus or a penalty, depending on the success or failure of their move.

Phono Tactics challenges two players to review English phonotactic constraints. Players start at opposite ends of a grid with 159 hexagonal fields. They take turns to move their counters towards the finish located in the centre of the grid by making a dice roll. A player needs to move to the nearest licit consonant cluster appearing in syllable onsets (after rolling 1–2), codas (after rolling 3–4), or onsets or codas (after rolling 5–6). After the first player makes a move, the other player consults their answer key to see if the move was valid.

Study design

This study focuses on 29 Polish learners of English who took our course: 25 females and 4 males (avg. age around 20 years old, avg. time spent learning English around 12 years). While a total of 50 learners played at least one of the three board games we piloted, only those twenty-nine played all three games, and took the final exam and the course evaluation survey. The remaining learners either dropped out of university midway through the second semester (when the games appeared) or did

not attempt the final exam and the course evaluation survey. The learners belonged to three groups taught by the present authors. The groups shared the same materials and the teachers followed the same lesson plans. The classes were held on different days of the week and at different times of the day.

Each group of learners played one board game per topic. The first 45 minutes of the class were devoted to completing worksheet activities and clarifying concepts. Then, the teacher spent five minutes on distributing the game sets, and about ten minutes on reading the rules of play aloud in English, demonstrating the first couple of rounds, and answering any questions. This usually left about 30 minutes for at least one full playthrough with little teacher supervision. After the class, the learners could either take their in-class copy of the game with them or print a new copy at home.

In this observational study, the main explanatory variable is whether a topic was supplemented by a board game. The response variables are:

- **Learners' in-class engagement:** At the end of each course week, having taken the online post-class quiz, learners answered the same set of survey questions. Two of the questions are of interest here. The first one asked the learners to rate their in-class engagement on a 5-point scale, where 1 meant 'Very disengaged' and 5 meant 'Very engaged' (they received longer definitions of both terms). Another question asked them to decide whether or not they think a given course topic would help them in mastering their English pronunciation.
- **Learners' performance on assessment:** These are the scores that learners received on the relevant questions from the weekly post-class quizzes, the midterm test, and the final exam. All course content and assessment was aligned in terms of learning objectives and question types. Therefore, learners' score on assessment questions for a given topic should reflect their mastery of the learning objectives for that topic.
- **Learners' perceived usefulness of games:** At the end of the course, the learners completed a course evaluation survey. Among other questions, the learners were asked to rate the usefulness of each teaching aid used in the course on a 5-point scale, where 1 meant 'Not useful at all' and 5 meant 'Very useful'. They were also asked other close-ended and open-ended questions about the usefulness of the board games which we will describe in the Results section.

Additionally, we controlled for the learners' sex, their prior achievement (written and spoken secondary school final exam results), and the student group to which they belonged.

Results and discussion

Learners' self-reported in-class engagement

Figure 2 shows that learners reported a similar level of in-class engagement throughout the academic year, centred around 'somewhat engaged' (3.8 on avg.). There is little variation in the data: 75 per cent of all ratings fall between 3.5 and 4. For each topic in which learners played a board game, they rated their in-class engagement slightly higher than the average (Word Stress rated as 4; Weak Forms rated as 3.9; Phonotactics rated as 4). But only for the first board game topic, Word Stress, the engagement level was significantly higher than for the neighbouring topics not accompanied by board games (Connected speech processes rated as about 3.5 on avg. and Rhythm rated as about 3.6 on avg.). The other two topics with board games were rated similarly to neighbouring topics without board games (Weak Forms rated similarly to Intonation 1, and Phonotactics rated similarly to The syllable and General British vs General American).

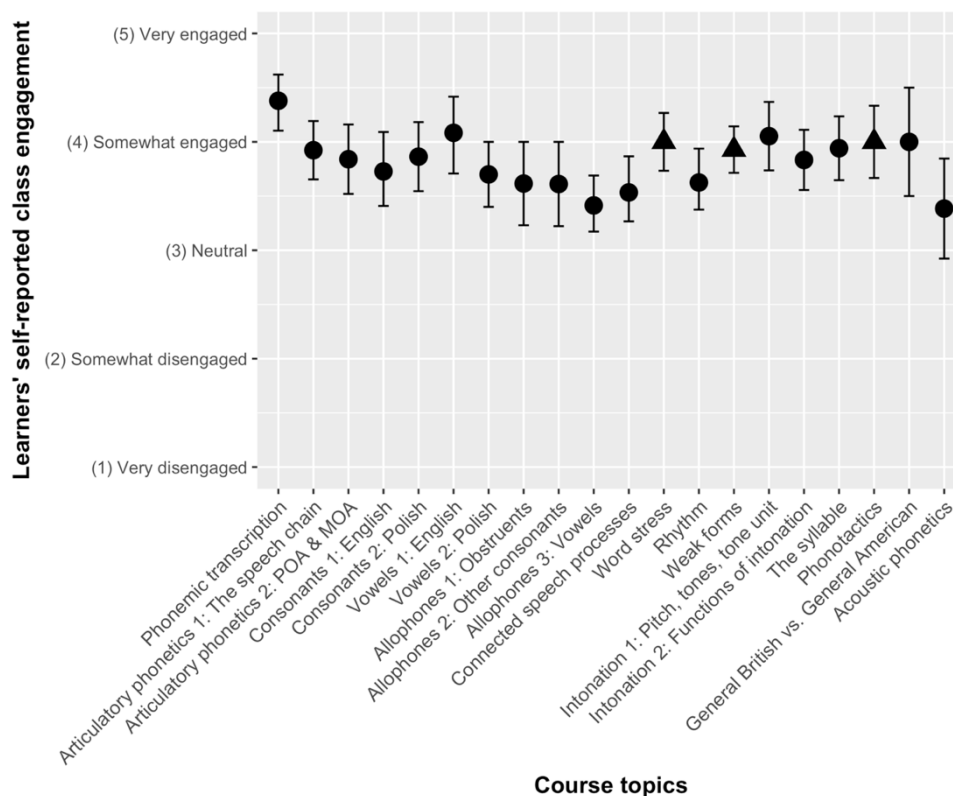


Figure 2. Mean in-class engagement self-reported by learners after each class (topic). Topics with board games are shown as triangles. Whiskers show 95 per cent confidence intervals.

A multiple regression analysis⁴ shows that a learners' in-class engagement increases by 0.29 of a point if that learner perceives a topic as useful ($p < 0.09$), after

controlling for the score on the online pre-class preparation module, the use of a board game in the class, sex, and prior achievement. While this is a weak association, the three topics accompanied by board games were indeed similarly or more helpful in mastering English pronunciation than other course topics. Figure 3 shows that, on average, about 94 per cent of learners rated the topics covered in both semesters as helpful in mastering their English pronunciation, compared to about 93 per cent for Word Stress and 100 per cent for both Weak Forms and Phonotactics.

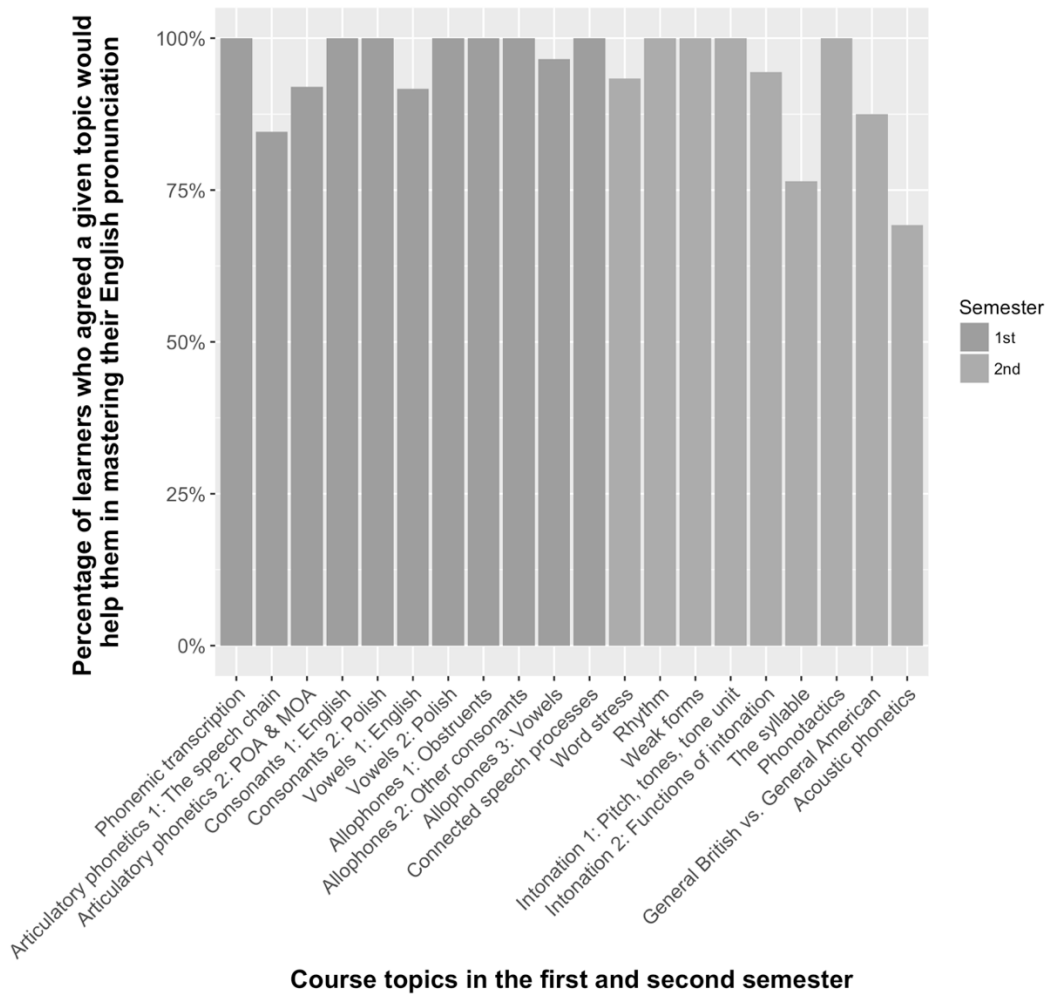


Figure 3. Learners' perceived usefulness of a given phonetics and phonology topic for mastering English pronunciation.

Another explanation of the differences in in-class engagement could be more trivial, namely that learners are less engaged if a class takes place in the morning. Unsurprisingly, we observed that learners who took the class on Monday at 8 a.m. seemed less engaged than learners who took the class on Tuesday at 3 p.m. In the survey for the second-lowest rated topic (Vowels 2: Polish), one learner explained

their 'somewhat disengaged' rating with a comment 'My disengagement is result of early hour. I was a bit sleepy. [The] lesson was all right.'

While we didn't systematically record the learners' interactions during the playthroughs, we observed that most learners were fully immersed in the games, as if they were regular (i.e. non-educational) games. This was probably because learners were responsible for checking each other's answers, so they needed to collaborate and stay focused from start to finish. Their high engagement may have also been influenced by switching to their native language for the playthrough. While classes and materials for all courses in the programme are in English, some learners switch to Polish during prolonged clarifications of confusing concepts. During the playthrough, the players were required to provide each other with corrective feedback, for which they usually switched to Polish. The use of Polish may have also been prompted by the more relaxed atmosphere that more closely resembled a casual board game night than a formal class.

Learners' performance on assessment

We now move from learners' perceptions to their actual performance by looking at how playing board games is associated with scores on quizzes that learners took after each class. A multiple regression analysis shows that playing an in-class board game is associated with an increase in the expected post-class quiz score of about 8 percentage points ($p < 0.03$), after controlling for student group, score on online pre-class preparation module, learners' perceived usefulness of a given topic, learners' self-reported in-class engagement, sex, and prior achievement.

Expectedly, three of the control variables show even stronger associations. First, we estimate an expected 0.13 percentage point increase in post-class quiz score for every one percentage point increase in pre-class preparation score ($p < 0.0002$). Second, we estimate an expected 5.93 percentage point increase in post-class quiz score for every one point increase in self-reported in-class engagement ($p < 0.0007$). Figure 4 visualises how the association between in-class engagement and post-class quiz score was observed to increase in the presence of board games. Third, we estimate an expected 0.47 percentage point increase in post-class quiz score for every one percentage point increase in written (but not spoken) secondary school final exam result ($p < 0.006$). This supports our observations that learners with a better command of English seemed to have less difficulty in understanding the course material.

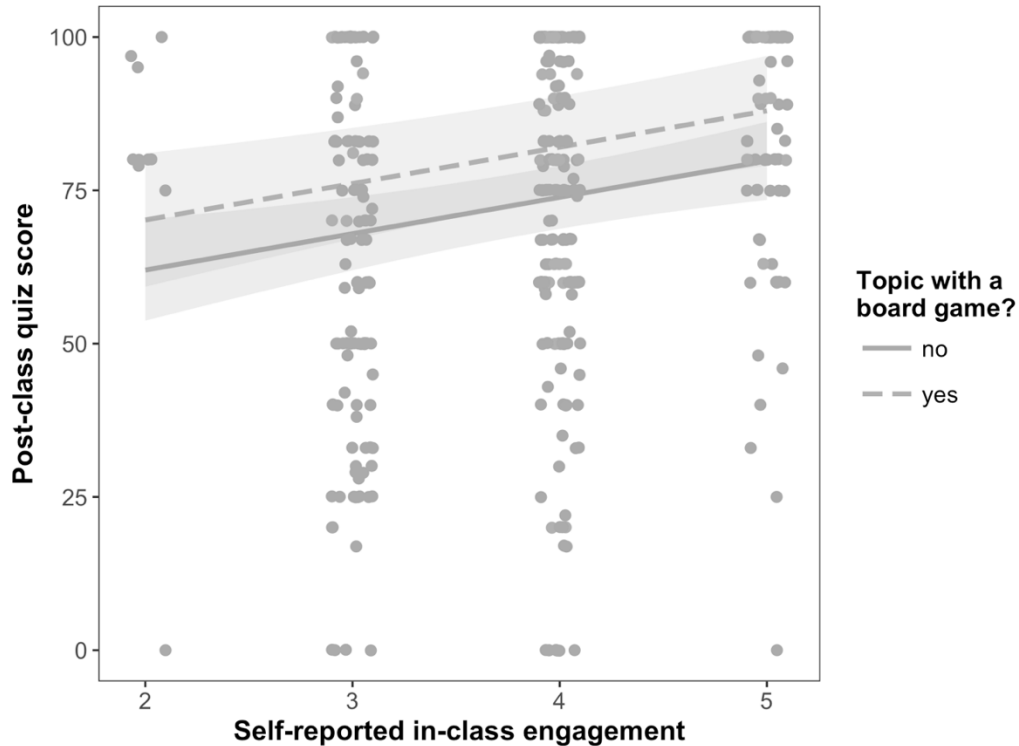


Figure 4. The association between in-class engagement and post-class quiz score for topics with and without a board game. Each dot represents one learner-topic pair.

We built similar multiple regression models for the associations between learners’ performance on (and the perception of) topics with board games and relevant tasks on the midterm test and the final exam but these results lacked both statistical and practical significance.

Learners’ perceived usefulness of games

We will now look at the results of the questions asked in the course evaluation survey that learners completed at the end of the course. Figure 5 shows how learners perceived the usefulness of board games compared to other teaching aids offered throughout the course. The horizontal axis lists the teaching aids in the order they were meant to be used each week (but note the games only appeared in three weeks). The vertical axis shows the perceived usefulness of a teaching aid on a 5-point scale, where 1 meant ‘Not useful at all’ and 5 meant ‘Very useful’. On average, the learners rated all three board games collectively as about 4.2. This means that learners found the games to be, on average, as useful as pre-class video lectures and post-class quizzes (both rated as about 4.2, on avg.) and about 45 per cent more useful than traditional pre-class readings (about 2.9 on avg.) but about 13 per cent less useful than in-class worksheets.

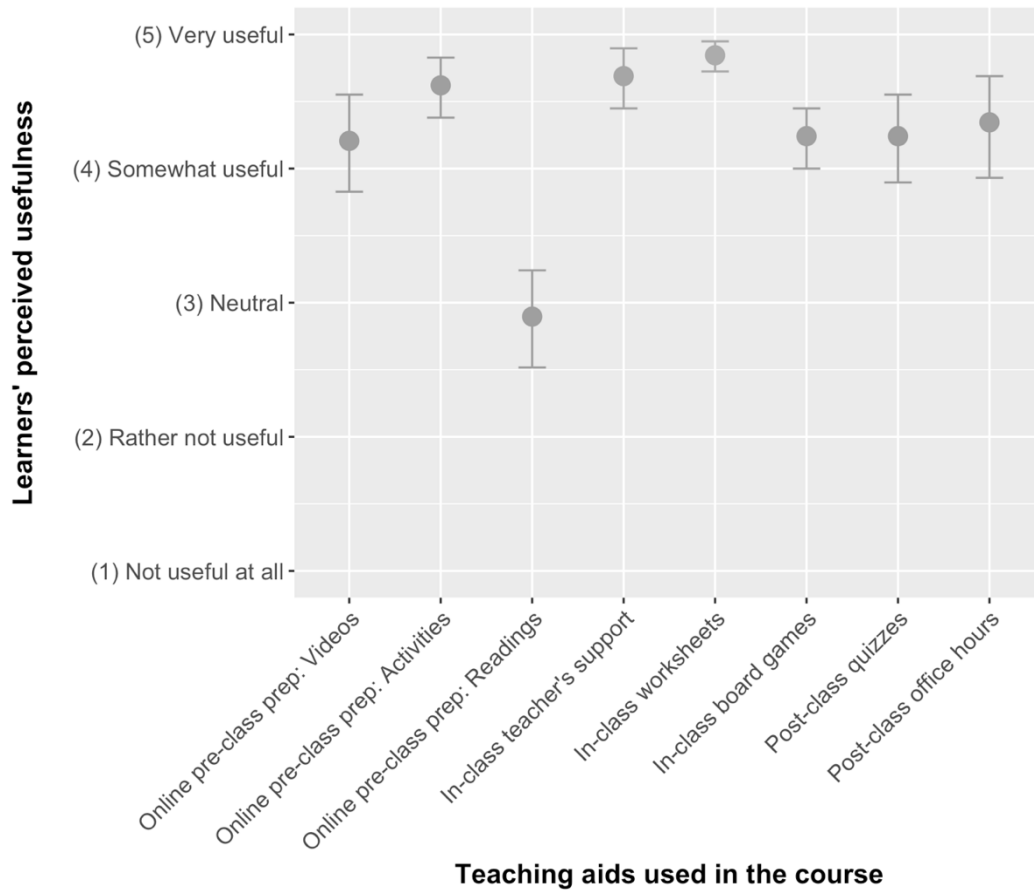
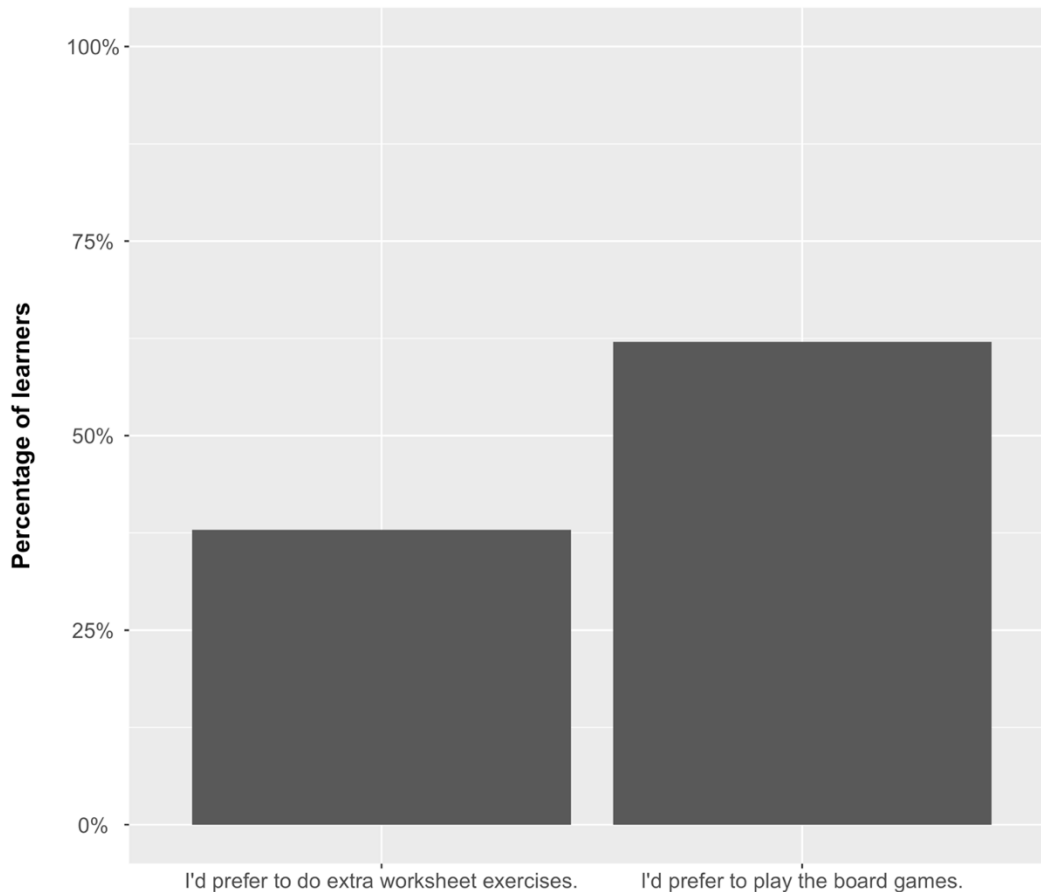


Figure 5. How learners rated the overall usefulness of board games compared to other teaching aids. Whiskers show 95 per cent confidence intervals.

While learners perceive worksheets as slightly more useful in-class teaching aids, they also think board games are a good supplement. When asked if they could go back in time and choose between spending 30 minutes (about one-third of total class time) on playing the games or doing extra worksheet exercises, 62 per cent of learners said they would prefer board games over extra exercises (Figure 6).



If you could choose between spending 30 minutes on doing extra worksheet exercises or playing board games, what would you prefer to do?

Figure 6. Learners' preference for using classroom time for completing extra worksheet exercises or playing board games instead.

Moreover, about 35 per cent of learners reported replaying at least one game after the class and 10 per cent of learners said they replayed at least one game while preparing with peers for the final exam (not shown). When asked to describe how exactly the board games were useful, learners said that games were '[an extra] chance to practice' that provided 'immediate feedback' and helped to 'memorise the rules' and 'remember [the learners'] mistakes' through 'fun' and 'competition'.

Conclusion

Summary of findings

To our knowledge, this is the first study on using print board games to teach English prosody to advanced EFL learners at university level. First, we showed that learners reported slightly higher in-class engagement for the three prosody topics accompanied by board games. Second, we observed a moderate increase in the

expected post-class quiz score for those topics. Third, learners reported that board games can be a fun alternative to the more typically-used in-class worksheets. And since these are actual games that learners can enjoy when they socialise after hours, they are also a stealthy way of introducing some extra study time in first-year students' busy schedules. We acknowledge that the study has limitations typical of an observational study conducted throughout an academic year at a national higher education institution, especially learners dropping out midway through the semester.

Teaching implications

Board games for advanced EFL learners are a promising teaching tool because they provide solid instructional scaffolding that fosters collaboration and allows for precise corrective feedback. Once the teacher walks the learners through the rules of play, he or she then transfers the ownership of the learning event to the learners. The frequent turn-taking imposes a shared responsibility to pay attention to each other's choices. In our games, the learners must collaborate because each player has access only to the other player's answer key. Moreover, the answer keys allow the learners to provide each other with explicit correction, which allows the teacher to focus on observing the learning and supplementing it with metalinguistic feedback. In an example intervention, the teacher could say 'Correct, the compound *,Park ,Road* has the primary stress on its final element because it is a location name. But why is *'Park ,Street* stressed on the first element?' Perhaps the only major disadvantage of a board game is the time needed to assemble the game components, introduce the rules, and play the game.

We encourage teachers to experiment with implementing prosody board games in their phonetics and phonology curricula, either by printing the games we designed for this study, or by creating their own games. Designing your own game can be a valuable instructional experience in itself. In our case, it forced us to re-evaluate our assessment criteria for each topic. For those teachers who would like to design their own game, we recommend limiting the scope of the game to a single learning outcome, creating a rough prototype in up to two hours, and testing it as soon as possible with another person to spot any potential loopholes.

Future directions

The next step for ELT researchers could be to use board games for recording learners' interactions while they are playing such pronunciation games. One could even involve learners in the process of creating their own board games and ask them to record their reflections. A more ambitious opportunity is to create technology-enhanced board games with pre-scripted feedback. While our board games proved engaging, they required teacher supervision to introduce the rules and provide feedback. In the board games industry, some publishers are now bypassing the need to consult the manual by building free mobile apps to accompany their games. In a phonetics and phonology board game, a simple companion app could replace the printed answer keys, provide just-in-time

feedback to learners who keep losing points, and possibly also increase replayability by introducing modified game rules. This would bring us one step closer to what could be the holy grail of educational board games – fun games that learners can take home and continue learning from, without teacher supervision.

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Notes

1 Prosody (or suprasegmental phonetics) refers to such speech features as word stress or intonation. It is a key part of pronunciation alongside segmental phonetics that focuses on single sounds.

2 Phonotactics refers to sound sequences that can occur in a syllable. For example, a Polish learner of English would pronounce *gnome* as */gnɔum/ because /gn/ is an acceptable Polish cluster.

3 In the flipped-classroom model, learners are usually expected to watch an instructional video before coming to class, so that class time is devoted to practice and clarification.

4 This analysis is fully reproducible. The raw data and code that generated the findings are available at [bit.ly/phongames code](http://bit.ly/phongames_code).

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